Archival Social Indicator Study

Virginia Prevention Needs Assessment: Alcohol and Other Drugs

Final Report

May 2002

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EXECUTIVE SUMMARY

INTRODUCTION

This report presents the findings of the Virginia Social Indicator Study, which was conducted as part of a national effort funded by the Substance Abuse and Mental Health Services Administration's (SAMHSA) Center for Substance Abuse Prevention (CSAP). This study was designed to collect archival data that measure risk factors and problem behaviors related to alcohol, tobacco, and other drug use (ATOD).

In 1998, the Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services contracted with CSAP to conduct a Statewide Prevention Needs Assessment. The Virginia Statewide Prevention Needs Assessment involves three studies: (1) a Community Youth Survey, (2) a Social Indicator Database, and (3) a Community Resource Assessment. Results from the Community Youth Survey and the Social Indicator Database will identify and prioritize salient risk factors, protective factors, and related adolescent problem behaviors. Results from the Community Resource Assessment will identify available prevention resources in the Commonwealth of Virginia.

The main goal of the CSAP Prevention Needs Assessment is to provide prevention planners with current and accurate information that may be used to improve the match between identified service needs and available resources. Prevention needs assessment data are essential to planning across all levels of the prevention system, from individual program planning to State-level strategy development. Additionally, the results should be utilized by local and Commonwealth prevention agencies to ensure that programs and services address identified risk factors and capitalize upon identified protective factors and resources.

BACKGROUND

The theoretical background for the Social Indicator Study is based on the Risk and Protective Factor Framework endorsed by the Center for Substance Abuse Prevention and is widely accepted in the prevention field. The risk and protective factor framework is a systematic, theoretically grounded approach for the development of community-based prevention programming. Risk factors are variables that increase the likelihood of ATOD use, while protective factors are variables that decrease the likelihood of ATOD use or buffer the negative effects of risk factors. The major premise of the framework is that the reduction of risk factors and enhancement of protective factors will reduce the incidence of ATOD use.

The science supporting prevention programs has evolved considerably, particularly since the late 1980s, when prevention programs typically incorporated linear cause-and-effect models that applied well-intentioned but relatively simplistic strategies to target single domains. Examples include

didactic programs to educate children about drugs or "just say 'no' " public awareness campaigns. With the benefit of more than a decade of concerted research that has explored more complex models and used longitudinal research to test etiological theories, it seems clear that ATOD use cannot be attributed to a single causal factor. Similarly, the prevention community has moved beyond single-cause theories to respond to an intricate play of risk and protective factors that heighten or attenuate risk for ATOD abuse. Increasingly, data are emerging from demonstration programs to support specific prevention strategies based on empirical evidence.

The preponderance of approaches currently employed to prevent ATOD use among youth follow a basic public health problem-response approach that includes (1) defining the problem, (2) identifying risk and protective factors, (3) identifying and implementing interventions, and (4) program evaluation. The current Virginia Social Indicator Study provides data that can be used to help define the problem and identify risk factors. These two steps lead to identification of appropriate interventions.

METHODOLOGY

The *Validated Archival Social Indicators* were the indicators of interest in the current study, and were selected and validated by the Six-State Consortium based on their predictive ability and availability in State and local agencies. Altogether, 42 individual indicators were collected that measure nine risk factors and five outcome problem behaviors. The risk factors are categorized into four life domains: individual/peer, family, school, and community.

Data for the Social Indicator Database were collected at the local (city/county) level. There are 135 localities in the Commonwealth of Virginia. Aggregated annual data for each social indicator were collected. When available, data for the Social Indicator Database were collected for the years 1996–2000. Rates for the social indicator data were calculated for localities, CSBs, HPRs, and urban/rural regions. In addition, risk factor and outcome indices were calculated to obtain more reliable and informative information in comparison to single social indicators. Finally, the reliability of each index was calculated to determine how well each social indicator measured the relevant risk factor or outcome index. Chronbach's alpha was calculated on each index. Items that reduced the overall alpha of an index below .70 were discarded, resulting in indices for nine risk factors and four outcome problem behaviors. Risk profiles were then developed using the indices.

Information on data coding and cleaning is presented in the full text of this report.

FINDINGS

This section presents the main findings of the Social Indicator Study. A complete description of the findings is included in the full text. The social indicators are

first presented in this section as trend data and then as risk profiles based on standardized risk factor and outcome indices.

Trend Data

The following section discusses general trends in the social indicator data. Only the trends for the Commonwealth average (i.e., the average of the five HPRs) will be presented in this section. Detailed descriptions of trends for each HPR are presented in the full text.

Individual Domain: Early Initiation of Problem Behavior

Four social indicators were collected to measure the risk factor Early Initiation of Problem Behavior: *dropouts prior to ninth grade*, *vandalism arrests of 10–14-year-olds*, *alcohol-related arrests of 10–14-year-olds*, and *person/property arrests of 10-14-year-olds*.

The findings indicate:

- The average rate of dropouts prior to 9th grade remained relatively stable from 1996 to 1999;
- The average rate of vandalism arrests per 1,000 youth 10–14 declined from 1996 to 1999;
- There was a slight increase in the average rate of alcohol-related arrests from 1996 to 1998 with a subsequent decline in 1999; and
- The average rate of person and property arrests declined from 1996 to 1999.

Family Domain: Family History of Substance Abuse

One social indicator was collected to measure the risk factor Family History of Substance Abuse: *adults receiving State-supported substance abuse treatment*.

The findings indicate:

- A decline in the average rate of adults receiving AOD treatment from 1996 to 1998, with a sharp increase in 1999, at which point the rate appears to stabilize.

Family Domain: Family Management Problems

Two social indicators were collected to measure the risk factor Family Management Problems: *children living in foster care* and *children living away from parents*.

The findings indicate:

- The average rate of children not living with a parent remained relatively stable from 1990 to 2000; and
- The average rate of children living in State-supported foster care remained relatively stable from 1996 to 2000.

Family Domain: Family Conflict

Two social indicators were collected to measure the risk factor Family Conflict: *child abuse/neglect cases* and *runaway arrests*.

The findings indicate:

- The average rate of child abuse and neglect cases remained relatively stable from 1996 to 1998, with a sharp increase in 1999; and
- The average rate of runway arrests declined from 1996 to 2000.

School Domain: Low Commitment to School

Two social indicators were collected to measure the risk factor Low Commitment to School: *event dropouts* and *status dropouts*.

The findings indicate:

- The average rate of event dropouts declined from 1996 to 2000; and
- Trend data are not available for status dropouts.

Community Domain: Availability of Drugs

Three social indicators were used to measure the risk factor Availability of Drugs: *net sales of alcohol outlets*, *number of alcohol outlets*, and *number of tobacco outlets*.

The findings indicate:

- The average rate of net alcohol sales from 1996 to 2000 was on the rise;
- The average rate of retail alcohol outlets from 1996 to 2000 was on the rise; and
- Trend data are not available on the rate of tobacco outlets.

Community Domain: Transitions and Mobility

Three social indicators were collected for the risk factor Transitions and Mobility: *new home construction*, *households in rental properties*, and *net migration*.

The findings indicate:

- The average rate of new building permits from 1996 to 1999 was on the rise;
- The average rate of households in rental properties from 1990 to 2000 remained relatively stable; and
- Trend data are not available on net migration.

Community Domain: Low Neighborhood Attachment

Two social indicators measured the risk factor Low Neighborhood Attachment: *population not voting in general elections* and *prisoners in State correctional systems*.

The findings indicate:

- The average rate of the population of registered voters who did not vote increased from 1996 to 1998, followed by a decrease from 1999 to 2000; and
- The average rate of prisoners admitted to State prisons by committing court remained relatively stable from 1996 to 2000.

Community Domain: Extreme Economic and Social Deprivation

Six social indicators measured the risk factor Extreme Economic and Social Deprivation: *unemployment*, *Free and Reduced Lunch program participants*, *TANF program participants*, *Food Stamp recipients*, *adults without a high school diploma,* and *single-parent family households*.

The findings indicate:

- The average rate of unemployment declined from 1996 to 2000; and
- The average percentage of participants in the Free and Reduced Lunch (FRLP) program remained stable from 1996 to 2000.
- The average rate of TANF participants declined from 1996 to 2000;
- The average rate of persons receiving Food Stamps declined from 1996 to 2000;
- Trend data are not available on adults without a high school diploma; and
- The average rate of single-parent households increased from 1990 to 2000.

Outcome: Substance Use

There are eight social indicators that measured the problem behavior Substance Use: *juvenile alcohol-related arrests*, *juvenile drug-related arrests*, *adult alcohol-related arrests*, *adult drug-related arrests*, *adult DUI arrests*, *alcohol-related traffic fatalities*, *drug use during pregnancy* (i.e., pregnant women receiving State-supported AOD treatment), and *drug use during pregnancy* (based on mothers' self-reports on birth records).

The findings indicate:

- The average rate of juvenile alcohol-related arrests increased from 1996 to 1998, with a subsequent sharp decline from 1998 to 2000;
- The average rate of juvenile drug-related arrests declined from 1996 to 2000;
- The average rate of adult alcohol-related arrests declined from 1996 to 2000;
- The average rate of adult drug-related arrests declined from 1996 to 2000;
- The average rate of adult DUI arrests remained relatively stable from 1996 to 2000;
- The average rate of alcohol-related traffic fatalities declined from 1996 to 1997, with a subsequent increase in 1998 and 1999, followed by another decrease in 2000;
- The average rate of pregnant women receiving State-supported AOD treatment increased from 1996 to 2000; and
- The average rate of pregnant women who reported ATOD use on birth records declined from 1996 to 1999.

Outcome: Violent Crime

There are three social indicators that measure the problem behavior Violent Crime: *juvenile arrests for violent crime*, *adult arrests for violent crime*, and *homicides*.

The findings indicate:

- The average rate of juvenile arrests for violent crime decreased from 1996 to 1999, with a subsequent increase in 2000;
- The average rate of adult arrests for violent crimes declined from 1996 to 2000; and
- The average homicide rate decreased from 1996 to 1999.

Outcome: Nonviolent Crime

There are three social indicators that measured the problem behavior Nonviolent Crime: *juvenile arrests for curfew*, *vandalism*, *and disorderly conduct*; *juvenile arrests for property crimes*; and *adult arrests for property crimes*.

The findings indicate:

- The average rate of juvenile arrests for curfew, vandalism, and disorderly conduct declined from 1996 to 2000;
- The average rate of juvenile arrests for property crimes declined from 1996 to 2000; and
- The average rate of adult arrests for property crimes declined from 1996 to 2000.

Outcome: Adolescent Sexual Behavior

Two social indicators were collected that measure the problem behavior Adolescent Sexual Behavior: *adolescent pregnancies* and *adolescent live births*.

The findings indicate:

- The average rate of adolescent pregnancies from 1996 to 1999 was on the decline; and
- The average rate of adolescent live births declined from 1996 to 1999.

Standardized Risk Profiles

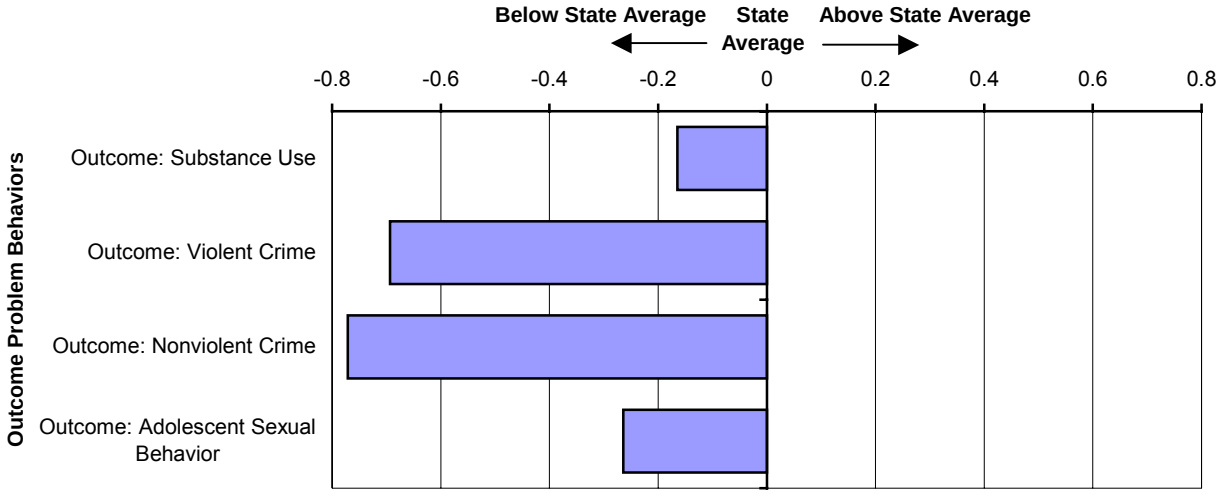
The following exhibits present the outcome problem behavior and risk profiles, based on the standardized social indicator indices, for each of the HPRs. The profiles display how much the outcome problem behaviors and risk factors deviate from the Commonwealth average. Negative scores indicate that risk factor or outcome is below the Commonwealth average, while positive scores indicate that the risk factor or outcome is above the Commonwealth average.

Outcome Problem Behavior Profiles

The following discussion will focus on the four outcome problem behaviors in each of the five HPRs.

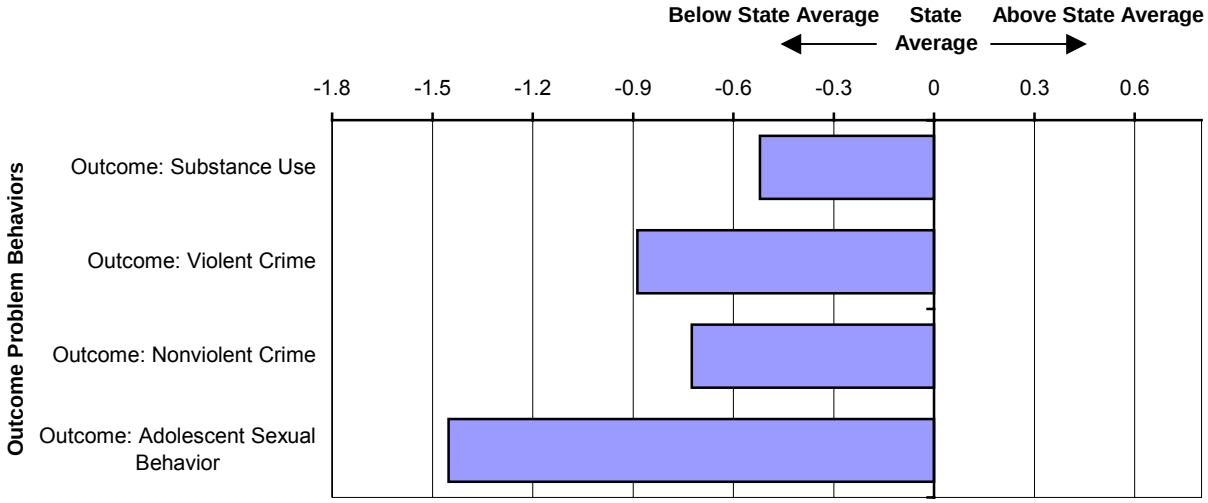
HPR I—The outcome profile for HPR I is displayed in Exhibit 1. All four outcomes in HPR I were below the Commonwealth average.

Exhibit 1. HPR I Standardized Social Indicator Outcome Profile



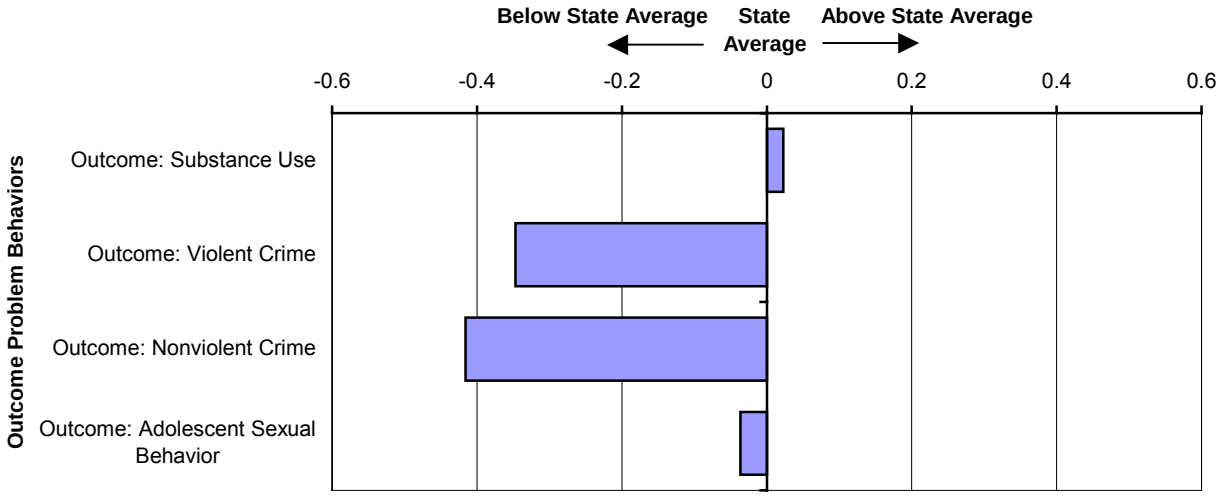
HPR II—The outcome profile for HPR II is displayed in Exhibit 2. All four outcomes in HPR II are below the Commonwealth average.

Exhibit 2. HPR II Standardized Social Indicator Outcome Profile



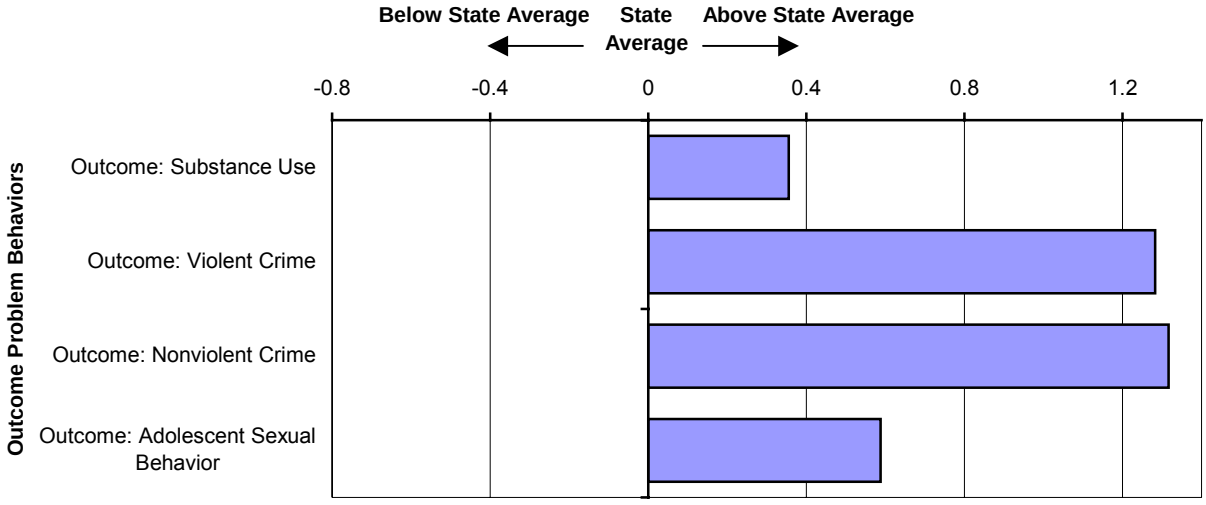
HPR III—The outcome profile for HPR III is displayed in Exhibit 3. Only one outcome is above the Commonwealth average in HPR III: Substance Use.

Exhibit 3. HPR III Standardized Social Indicator Outcome Profile



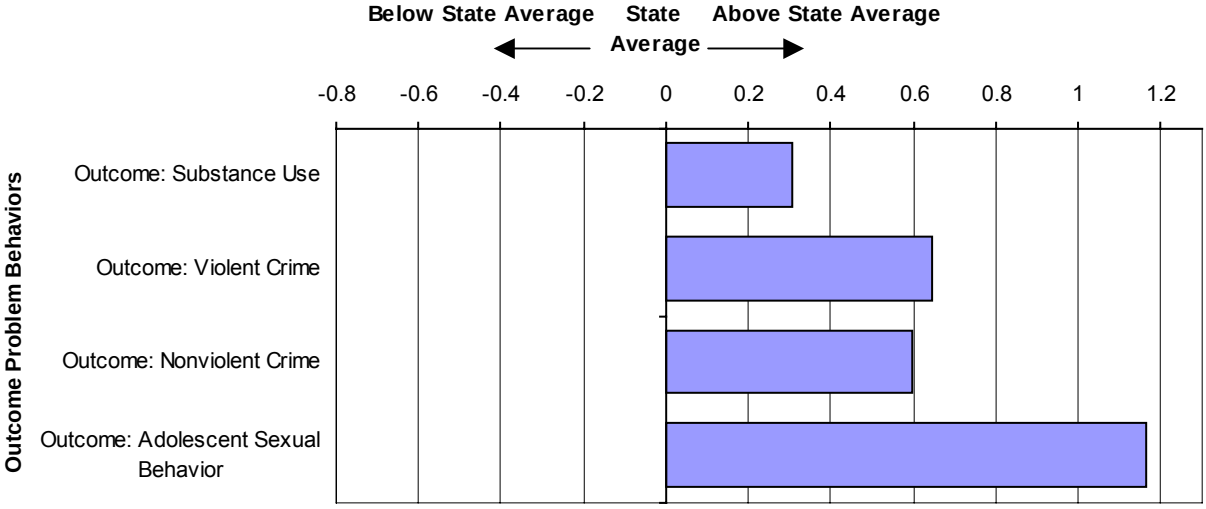
HPR IV—The outcome profile for HPR IV is displayed in Exhibit 4. All four outcomes were above the Commonwealth average in HPR IV.

Exhibit 4. HPR IV Standardized Social Indicator Outcome Profile



HPR V—The outcome profile for HPR V is displayed in Exhibit 5. All four outcomes were above the Commonwealth average in HPR V.

Exhibit 5. HPR V Standardized Social Indicator Outcome Profile

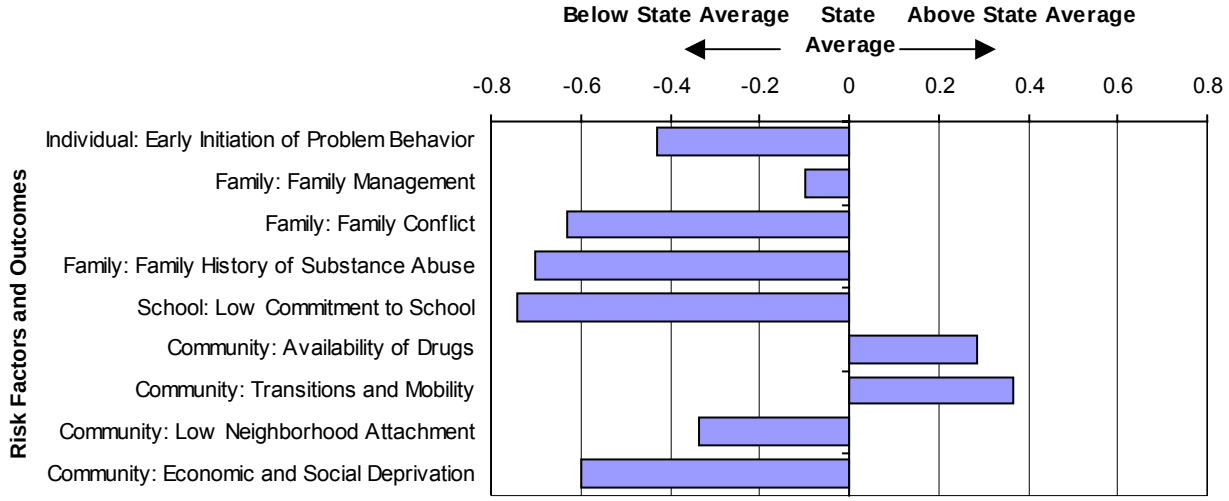


Risk Profiles

The following discussion will focus on the risk profiles for each of the five HPRs.

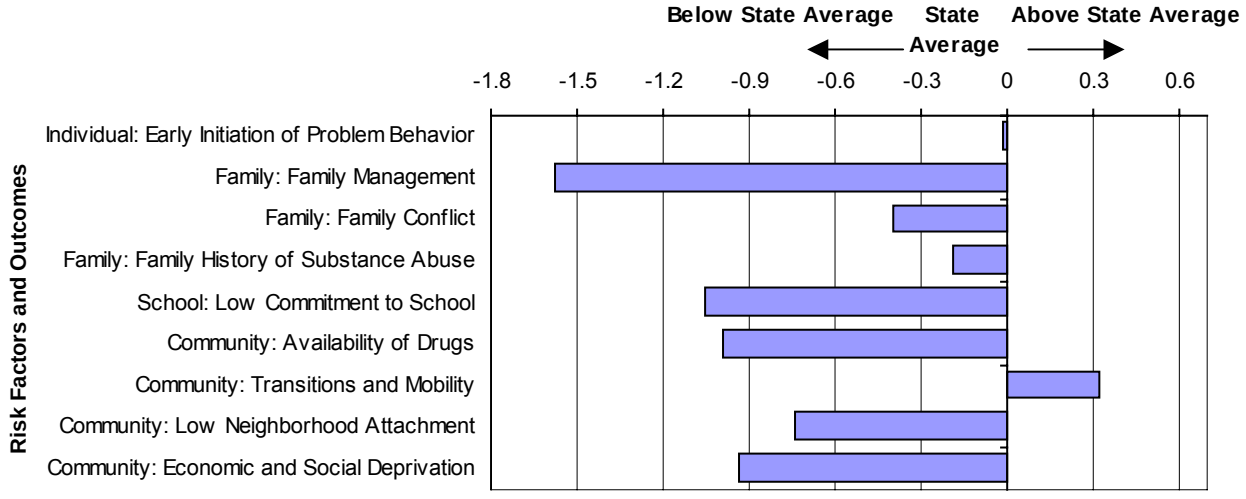
HPR I—The risk profile for HPR I is displayed in Exhibit 6. In HPR I, only two risk factors were above the Commonwealth average: Availability of Drugs and Transitions and Mobility.

Exhibit 6. HPR I: Standardized Social Indicator Risk Profile



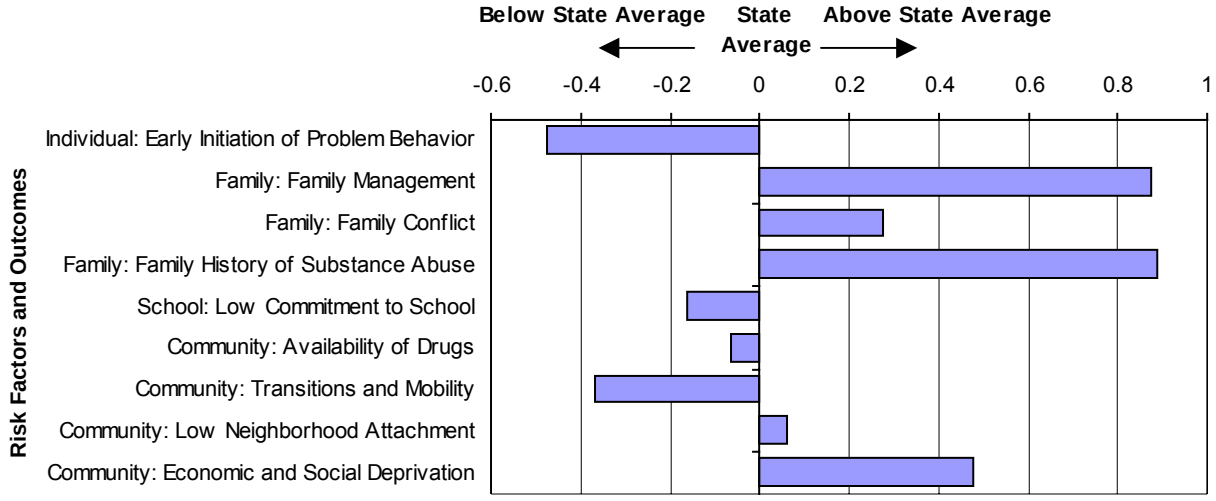
HPR II—The risk profile for HPR II is presented in Exhibit 7. In HPR II, only one risk factor was above the Commonwealth average: Transitions and Mobility.

Exhibit 7. HPR II: Standardized Social Indicator Risk Profile



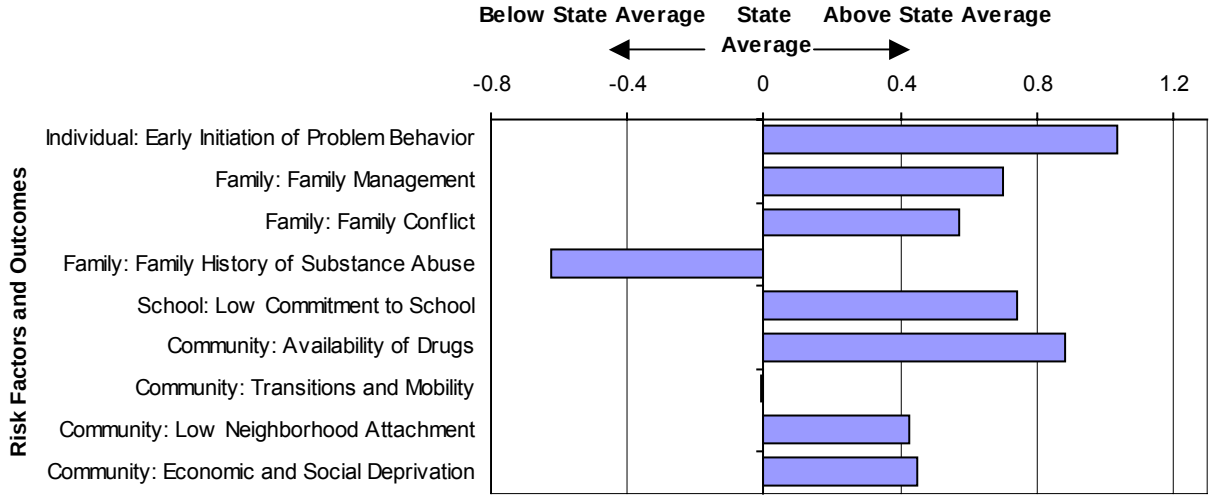
HPR III—The risk profile of HPR III is presented in Exhibit 8. In HPR III, five risk factors were above the Commonwealth average: Family Management, Family Conflict, Family History of Substance Abuse, Low Neighborhood Attachment, and Economic and Social Deprivation.

Exhibit 8. HPR III: Standardized Social Indicator Risk Profile



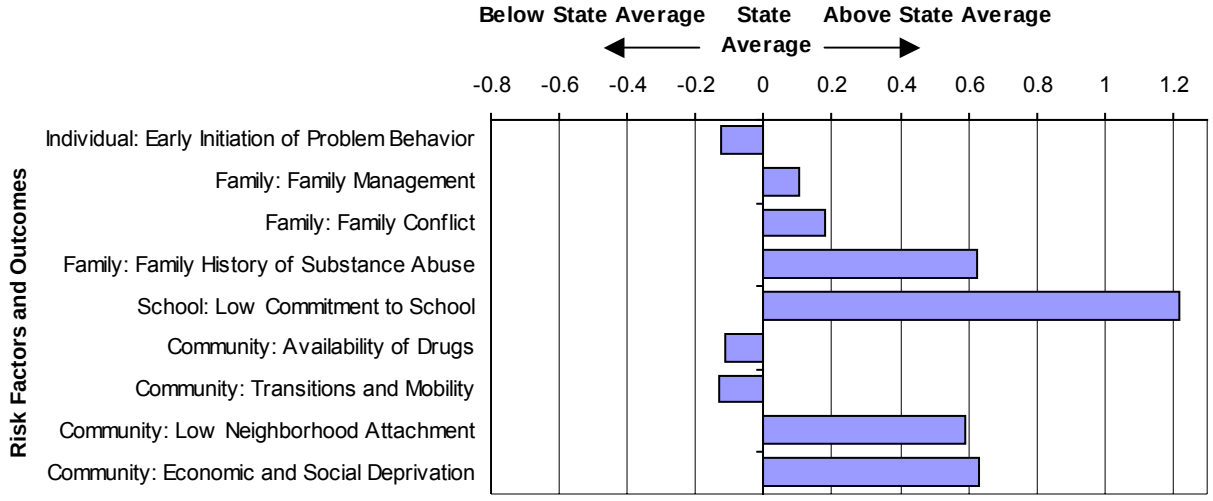
HPR IV—The risk profile of HPR IV is presented in Exhibit 9. In HPR IV, seven risk factors were above the Commonwealth average: Early Initiation of Problem Behavior, Family Management, Family Conflict, Low Commitment to School, Availability of Drugs, Low Neighborhood Attachment, and Economic and Social Deprivation.

Exhibit 9. HPR IV: Standardized Social Indicator Risk Profile



HPR V—The risk profile of HPR V is presented in Exhibit 10. In HPR V, six risk factors were above the Commonwealth average: Family Management, Family Conflict, Family History of Substance Abuse, Low Commitment to School, Low Neighborhood Attachment, and Economic and Social Deprivation.

Exhibit 10. HPR V: Standardized Social Indicator Risk Profile



DISCUSSION

The findings from the Social Indicator Study provide valuable information regarding risk factors related to ATOD use and adolescent problem behaviors. Information on salient risk factors and problem behaviors is invaluable to the prevention planning process. The following sections provide a discussion of the findings of the Social Indicator Study and their application to prevention planning.

Trend Data

Trend data can provide valuable information regarding changes in social indicators across time. This information may be used to identify risk factors or problem behaviors that are on the rise. It is suggested that prevention planners pay special attention to risk factors and problem behaviors on the rise.

Based on social indicator trends, two of the nine risk factors appear to be on the rise (Family History of Substance Abuse and Availability of Drugs), while two other risk factors appear to be on the decline (Early Initiation of Problem Behavior and Low Commitment to School). The trend for one risk factor, Family Management Problems, remained stable, while the trends for four risk factors were inconclusive: Family Conflict, Transitions and Mobility, Low Neighborhood Attachment, and Extreme Economic Deprivation. These findings suggest that two risk factors, Family History of Substance Abuse and Availability of Drugs are problematic and are areas of concern for the Commonwealth.

A different pattern emerges for the outcome Problem Behaviors. Based on the trends for the social indicator data, it appears that all four outcome problem behaviors are on the decline. Underlying causes for this decline should be identified. If the decline is due to local prevention efforts, then current prevention efforts should be continued. Results from local community resource assessment efforts may help prevention planners identify causes for current trends.

Defining the Problem

The findings from the outcome profiles may be used by prevention planners for step one of the planning process: "define the problem" (i.e., identify salient problem behaviors). All four outcomes in HPRs I and II are below the Commonwealth average. Thus, based on the social indicator data, no outcome problem behaviors can be defined as above the Commonwealth norm in HPRs I and II. However, this should not be construed to mean no problem can be defined in HPR I or II. Though the outcomes may be lower than the Commonwealth average in a particular HPR, the HPR may still have an outcome that needs to be addressed. The data may simply indicate that the problem is not as significant as in most other areas of the Commonwealth (e.g., the outcome Substance Use in a particular HPR may be lower than the Commonwealth average, but any substance use may be considered problematic to that community). Prevalence data from other sources (e.g., youth survey data) may also identify problem behaviors above the Commonwealth average that were not evident from social indicator data.

In HPR III, the outcome Substance Use is above the Commonwealth average. Therefore, based on the social indicator data, the most salient problem behavior in HPR III is Substance Use. In HPRs IV and V, all four outcome problem behaviors are above the Commonwealth average. The two most problematic outcomes in HPR IV are Nonviolent Crime and Violent Crime. The two most problematic outcomes in HPR V are Adolescent Sexual Behavior and Violent Crime.

Prioritizing Risk Factors

The findings from the risk profiles can be used to complete step two of the prevention planning process: prioritization of risk factors. The following discussion will address this issue.

The Southeastern Center for the Application of Prevention Technology (SECAPT) suggests that part of the prioritization process should include the selection of two to five priority risk factors (www.secapt.org/science3.html; 1/21/02). In this discussion, selection is limited to no more than three priority risk factors to maximize limited resources. Selection of the three priority risk factors was based on the three risk factors that had the largest deviation above the Commonwealth mean. The priority risk factors for HPR I, based on the social indicator data, are Availability of Drugs and Transitions and Mobility. The priority risk factor in HPR II, based on the social indicator data, is Transitions

and Mobility. The three priority risk factors in HPR III, based on the social indicator data, are Family History of Substance Abuse, Family Management Problems and Extreme Economic and Social Deprivation. The three priority risk factors in HPR IV, based on the social indicator data, are Early Initiation of Problem Behavior, Availability of Drugs, and Low Commitment to School. The three priority risk factors in HPRV, based on the social indicator data, are Low Commitment to School, Extreme Economic and Social Deprivation, and Family History of Substance Abuse.

Implementing Programs

The third step in the planning process is to implement programs that target the prioritized risk factors. Prevention planners are encouraged to select "best-practice" or model programs that target the prioritized risk factors as part of the implementing programs process. Implementing programs can take two forms. First, existing programs that target prioritized risk factors can be modified to meet best-practice requirements. Findings from community resource assessments can aid in the process of identifying available resources that target prioritized risk factors. Second, new best-practice or model programs can be developed and implemented to target prioritized risk factors. Detailed descriptions of the programs are presented in Appendix D.

HPR I

Social indicator data indicate Availability of Drugs and Transitions and Mobility are the salient risk factors for this region. The following list provides best-practice programs targeting the prioritized risk factors:

- Availability of Drugs:
  - Economic Interventions;
  - Project Star; and
  - Project Northland.

- Transitions and Mobility:
  - Communities That Care; and
  - Project PATHE.

HPR II

Social indicator data indicate Transitions and Mobility is the salient risk factor for this region. The best-practice programs identified below target this priority risk factor:

- Transitions and Mobility:
  - Communities That Care; and
  - Project PATHE.

HPR III

Social indicator data indicate Family Management Problems, Family History of Substance Abuse, and Extreme Economic and Social Deprivation are the salient risk factors for this region. The following presents some of the best-practice programs addressing the respective risk factors:

- Family Management Problems:
  - Adolescent Transitions Program;
  - Birth to Three Program;
  - CEDEN Family Resource Center;
  - Creating Lasting Connections;
  - DARE to Be You;
  - Early Childhood Substance Abuse Prevention Project;
  - Effective Black Parenting;
  - Families and Schools Together;
  - Families in Focus: Seven Secrets to a Successful Family (Boswell);
  - Family Therapy;
  - Focus on Families;
  - Functional Family Therapy Program;
  - Home Visiting;
  - Iowa Strengthening Families Program;
  - MELD;
  - NICASA Parent Project;
  - The Nurturing Program;
  - Parenting Adolescents Wisely;
  - Video Presentation Program: Parents and Children;
  - Parent and Family Skills Training;
  - Parenting Skills Program;
  - Prenatal/Early Infancy Project;
  - Preparing for the Drug Free Years;
  - Seattle Social Development Project;
  - Strengthening Families Program;
  - Strengthening Hawaii Families; and
  - Treatment Foster Care Program.

- Family History of Substance Abuse:
  - Focus on Families; and
  - Residential Student Assistance Program; and
  - Strengthening Families Program.

- Extreme Economic and Social Deprivation:
  - Prenatal/Early Infancy Project; and
  - Quantum Opportunities Program.

HPR IV

Social indicator data indicate Early Initiation of Problem Behavior, Low Commitment to School, and Availability of Drugs are the salient risk factors for this region. The best-practice programs identified by SECAPT for addressing each respective risk factor are provided below:

- Low Commitment to School:
  - Across Ages;
  - Child Development Project;
  - Families and Schools Together;
  - Mentoring;
  - Norm for Behavior and Rule Setting in School;
  - Project ACHIEVE;
  - Project PATHE; and
  - Seattle Social Development Project.

- Early Initiation of Problem Behavior:
  - Creating Lasting Connections;
  - Mentoring;
  - Project Alert;
  - Project Northland;
  - Across Ages;
  - Child Development Project;
  - Families and Schools Together;
  - Mentoring;
  - Norm for Behavior and Rule Setting in School;
  - Project ACHIEVE;
  - Project PATHE; and
  - Seattle Social Development Project.

- Availability of Drugs:
  - Economic Interventions;
  - Project Star;
  - Project Northland; and
  - Retailer-Directed Interventions.

HPR V

Social indicator data indicate Low Commitment to School, Family History of Substance Abuse, and Extreme Economic and Social Deprivation are the salient risk factors for this region. Best-practice programs are provided following their respective risk factors below:

- Low Commitment to School:
  - Across Ages;
  - Child Development Project;

  - Families and Schools Together;
  - Mentoring;
  - Norm for Behavior and Rule Setting in School;
  - Project ACHIEVE;
  - Project PATHE; and
  - Seattle Social Development Project.

- Family History of Substance Abuse:
  - Families in Focus;
  - Residential Student Assistance Program; and
  - Strengthening Families Program.
- Economic and Social Deprivation:
  - Prenatal/Early Infancy Project; and
  - Quantum Opportunities Program.

Commonwealth-Wide Prevention Planning

The findings from the Social Indicator Study are a critical component of a Commonwealth-wide prevention needs assessment. The Prevention Needs Assessment Studies, including this study of social indicators, represent the first time in the history of prevention planning in Virginia that consistent, reliable Commonwealth-wide data have been available. The Social Indicator Study findings identify ATOD prevention-related needs throughout Virginia by identifying the prevalence of problem behaviors and salient ATOD risk factors. These findings provide prevention planners with data to complete the first two steps of the prevention planning process—defining the problem and prioritizing risk and protective factors. The definition of problem behaviors and the identification of priority risk factors helps to inform prevention planning decisions related to the selection of best-practice programs most likely to reduce local risk factors. Continued collection and analysis of social indicator data, coupled with youth and community resource survey information, can also provide the Commonwealth with data to complete the final step of the prevention planning process—evaluation. Assessing trends in this data over the coming years provides a means to measure long-term outcomes of prevention planning efforts and provides planners with tools to continually assess the relationship between prevention needs and resources.

The social indicator data, together with the Community Youth Survey and the Community Resource Assessment components of the Prevention Needs Assessment Studies, can be utilized to assess the gap between existing resources relative to identified need. This information will help allocate prevention resources to close gaps in existing services, policies, and activities; buttress effective services, policies, and activities; and assist planners and policymakers in prevention planning, resource allocation, evaluation activities and policy development to help prevent ATOD use among Virginia youth.

1. BACKGROUND AND INTRODUCTION

Substance abuse is linked to documented negative social and economic costs for society. The economic cost of alcohol and other drug use has been estimated at approximately $294 billion in treatment, health care, crime, and lost productivity (U.S. Department of Health and Human Services Press Office, 2001). In addition to the economic costs, alcohol, tobacco, and other drug (ATOD) use has been linked to a number of social problems. Research has consistently found a relationship with ATOD use and other problem behaviors. Youth who use ATODs are more likely to engage in violent behaviors (Substance Abuse and Mental Health Services Administration, 2000), exhibit poor school performance, engage in risky sexual activity, be victimized, engage in delinquent behaviors, engage in suicidal behaviors and/or ideation, and run away from home (SAMHSA, 2000).

Additionally, alcohol has been linked to a number of fatalities**.** Each year, drug- and alcohol-related abuse kills more than 120,000 Americans. According to the Department of Transportation, a substantial number of traffic fatalities in youth ages 16 to 20 continue to be alcohol related (21%). Half of all youth who drown, a leading cause of death among youth, had been drinking prior to death. Finally, approximately 3 percent of college undergraduates will die from alcohol-related causes (SAMHSA Office of Applied Studies, 2001). Extended use of ATODs has been linked to a number of health-related problems: emphysema, cirrhosis of the liver, coronary heart disease, lung cancer, and HIV.

Despite a downward trend in the prevalence of substance use, the use of (ATODs) continues to be a serious health problem. ATOD use is a particular problem among youth. Recent findings from the 2000 Household Survey on Drug Abuse indicate that a large percentage of youth continue to use ATODs. In 2000, of youth ages 12 to 17, 13.4 percent reported the use of tobacco, 27.5 percent reported the use of alcohol, 18.7 percent reported binge drinking, and 9.7 percent reported use of other drugs within the past month (SAMHSA, 2001). An even more alarming statistic is the recent finding that the age of first use is decreasing (SAMHSA, 2000). This finding underscores the importance of early prevention.

In direct response to the need for effective ATOD prevention programming, the Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services (VDMHMRSAS) obtained funding through SAMHSA's Center for Substance Abuse Prevention to conduct a family of prevention needs assessment studies—a Community Youth Survey, a Social Archival Indicator Study, and a Community Resource Assessment. This document reports on findings from the Social Indicator Study. The purpose of the Social Indicator Study was to collect archival data to identify salient risk factors related to ATOD use across the Commonwealth of Virginia.

1.1 Background

In 1998, the Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services contracted with the Center of Substance Abuse Prevention (CSAP) to conduct a Statewide Prevention Needs Assessment. The Virginia Statewide Prevention Needs Assessment involves three studies: (1) a Community Youth Survey, (2) an Archival Social Indicator Study, and (3) a Community Resource Assessment. These studies will enhance Virginia's capacity to develop a Comprehensive Prevention Plan and will assist local prevention planners in identifying interventions appropriate for their local area. A central purpose of these studies is to ensure that this planning is based on data derived from reliable data collection procedures that are consistent across the Commonwealth, and that this planning is based on theory and is comprehensive in scope.

Results from the Community Youth Survey and the Social Indicator Database will identify salient risk factors, protective factors and prevalence information. Data from the Social Indicator Database will be used in conjunction with data from the Community Youth Survey to identify and prioritize salient risk factors and problem behaviors in Virginia. Results from the Community Resource Assessment will identify available prevention resources in the Commonwealth of Virginia.

Data from the three studies will be integrated to provide prevention planners with information regarding the match between identified need and available resources. Prevention needs assessment data are essential to planning across all levels of the prevention system, from individual program planning to State-level strategy development. The main goal of the CSAP Prevention Needs Assessment is to provide prevention planners with current and accurate information that may be used to improve the match between service needs and available resources. Additionally, the results should be utilized by local and State prevention agencies to ensure that programs and services address identified risk factors and capitalize upon identified protective factors and resources.

1.1.1 *Background Literature*

The science behind ATOD prevention has evolved considerably, particularly since the late 1980s, when prevention programs typically incorporated linear cause-and-effect models that applied well-intentioned, but relatively simplistic strategies to target single domains. Examples include didactic programs to educate children about drugs or "just say 'no' " public awareness campaigns. With the benefit of more than a decade of concerted research that has explored more complex models and used longitudinal research to test etiological theories, it seems clear that ATOD use cannot be attributed to a single causal factor. Similarly, the prevention community has moved beyond single-cause theories to respond to an intricate play of risk and protective factors that heighten or attenuate risk for ATOD abuse. Increasingly, data are emerging from demonstration programs to support specific prevention strategies based on empirical evidence.

The "new public health," as described by Petersen and Lupton (1996) and others, describes a focus on health that broadens the traditional biomedical model by

envisioning health as a social entity that comprises perceptions and cultures (Petersen, 1996). One implication of this new public health is to encourage community-based approaches centered not only on changes in the behavior of individuals but on the interplay of changes in lifestyles, communities, and environments. In addition to ATOD prevention, this philosophy permeates other areas of public health, including child abuse and neglect, heart disease, and HIV infection (Garbarino, 1997; Garbarino, 1992; Diez Roux, 2001; World Health Organization and Canadian Public Health Association, 1996).

The theoretical and conceptual frameworks described in the following subsection are based broadly on the notion that the more risk factors a youth is exposed to, the more likely he or she is to have problems with ATOD use in adolescence. A reduction of the number of risk factors is associated with lower vulnerability to ATOD problems during the adolescent period (Newcomb, 1992). While research has demonstrated that exposure to risk factors heightens risk for abuse, it is apparent that some exposed children do not develop ATOD use problems. Researchers hypothesize that the risk-outcome pattern is interrupted for these children because of factors that protect the child, such as secure family bonds, clear parental expectations, and academic success (Hawkins, 1992).

1.1.2 *Theoretical and Conceptual Frameworks*

A theory is a set of concepts that present a systematic view of events by specifying the relationships among variables. Theories are used to explain and/or predict events or situations (National Cancer Institute). Health-related theories come from the social, behavioral, and biological sciences and these theories borrow from such disciplines as anthropology and social psychology. It is now accepted in the field that effective prevention practice depends on articulating cogent theory, applying it in practice, and evaluating based on the theoretical model.

Conceptual frameworks are comprised of theories. Key theories that are relevant to the current state of ATOD prevention research are multi-level, or ecological. That is, the idea that behavior affects and is affected at several levels by factors that include intrapersonal or individual factors (e.g., knowledge and attitudes); interpersonal factors (e.g., roles and expectations of family and peers); and community factors (e.g., behavioral norms). Individual-level theories include Stages of Change and the Health Belief Model. Stages of Change is often applied in tobacco cessation programs and refers to the individual's readiness to quit smoking. The Health Belief Model relates to the individual's negative or positive perception of a problem or behavior; for example, the individual's own ideas about the acceptability of drug use.

Social Learning Theory explains behavior as a three-way, dynamic, and reciprocal theory in which personal factors, environmental influences, and behavior continually interact. A basic premise is that people learn not only through their own experiences, but also by observing the actions of others and the results of those actions. Community Organization is a theory based on social network and support theory; it emphasizes active participation and the development of community resources to evaluate and solve health and social problems. Diffusion of Innovations

Theory addresses how new ideas, products, and social practices spread within a society or from one society to another.

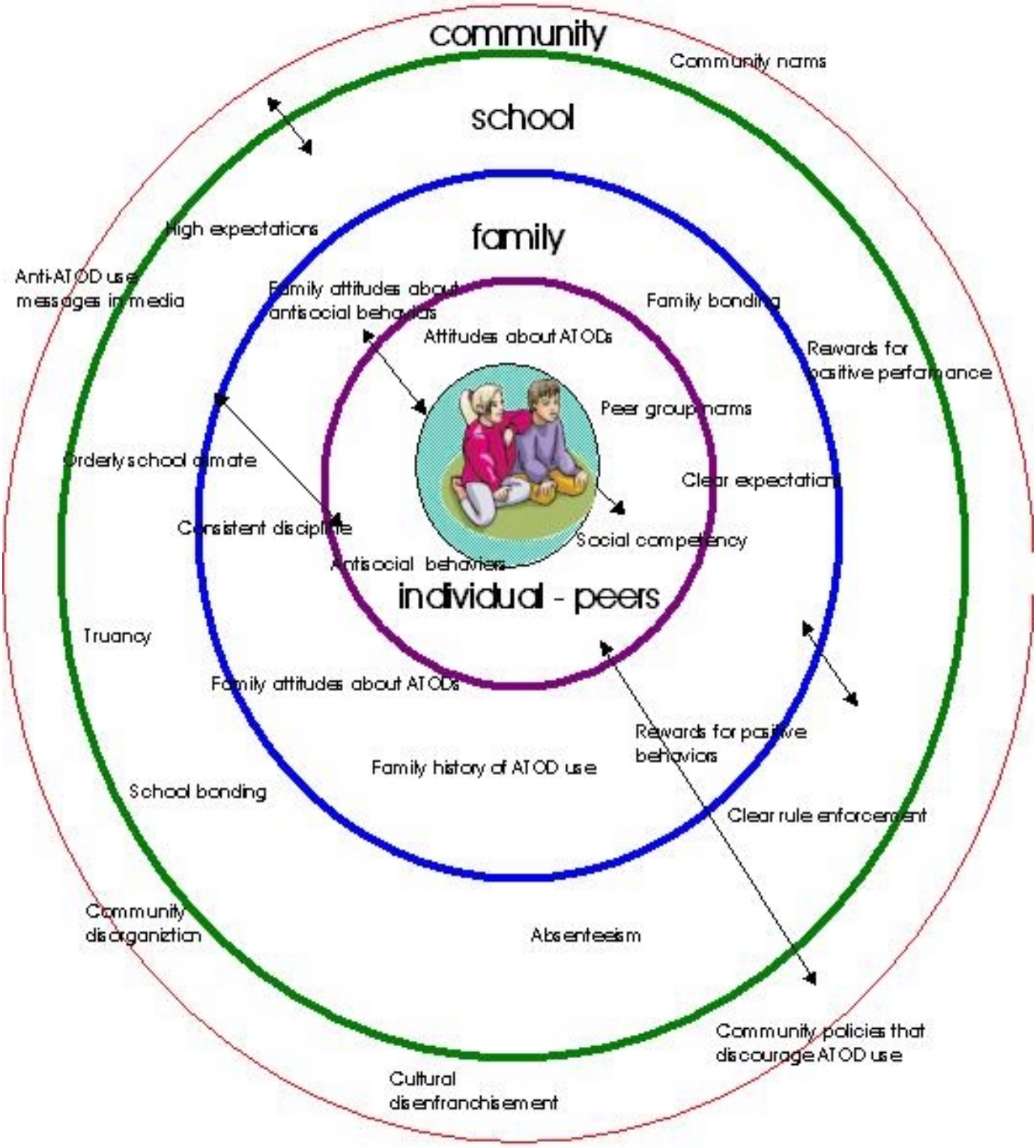
The Social Development Model, as operationalized by Hawkins and Catalano, et al., provides an integrating conceptual framework to the Virginia Needs Assessment (Social Development Research Group, 1994–2001; Hawkins and Catalano, 1996). This model integrates social control and social learning theories with ecological models of child development to describe the antecedents of ATOD use and related problems and the resiliency factors that prevent such use within the context of a set of multiple societal domains. The social control and social learning theories specify the roles of parental and peer influences, social bonding, normative beliefs, and other factors predictive of children's behavior (Hirschi, 1969; Akers, 1977; Sutherland, 1956). Models such as Bronfenbrenner's ecological model of child development suggest the domains that play interacting roles in influencing individual development (Bronfenbrenner, 1979).

Based initially on longitudinal research with a cohort of 808 children in 1985, Hawkins, Catalano, and their colleagues began to compile findings suggesting that conditions in children's community, school, family, and peer environments, in combination with the child's own psychological and biological traits, are common risk factors and that these risk factors are associated with such outcomes as ATOD abuse, delinquency, teen pregnancy, and school failure (Social Development Research Group, 1994–2001). In addition, there appear to be protective processes that shield children who are exposed to risk from negative outcomes. The Social Development Model focuses on two protective factors: (1) bonding to pro-social family, school, and peers; and (2) the existence of clear standards or norms for behavior (Social Development Research Group, no date). The processes that promote these protective factors include opportunities for the child's involvement in pro-social roles and for skills to be integrated into these roles, and consistent systems of recognition and reinforcement for pro-social involvement.

Bronfenbrenner's ecological model of human development provides a useful metaphor for understanding the Social Development Model. Bronfenbrenner used the metaphor of nested Russian dolls to explain his theory that forces impact on the developing child at levels that include the individual (microsystem), family-parent (mesosystem), community (exosystem), and cultural-political (macrosystem) (Bronfenbrenner, 1979). Exhibit 1-1 adapts this metaphor to describe the environment in which ATOD abuse occurs and incorporates CSAP findings about effective programs by domain (CSAP, 1999; Bronfenbrenner, 1979).

In Exhibit 1-1, the concentric circles surrounding the individual can represent the sources of risk or the forces of protection. Each circle is nested within the other and together they form an interactive whole. The innermost circle represents the individual. Individual risk and protective factors tend to cluster around personality or psychosocial characteristics, attitudes, knowledge, and behaviors including (1) bonding to family, peers, and community members (Suedfeld, 1991); (2) psychological depression, conduct disorder, or other mental illness (Belfer, 1993); (3) academic achievement (Gillmore, Butler, Lohr, and Gilchrest, 1992), and (4) religiosity (Cochran, 1992; Greenwood, 1992). The influence

Exhibit 1-1
Ecological Model of Human Development



of peers on adolescent ATOD use has been widely studied with the salient factors being use of drugs by peers (ONDCP, 1992); the norms established by a given peer group (Dielman, Butchart, and Shope, 1993); the quality of social interaction with peers (Bureau of Justice Statistics, 1992); and peer social pressure (Keefe, 1994).

Family factors may include a family history of ATOD abuse (Hawkins, Catalano, and Miller, 1992; Greenwood, 1992); and physical or sexual abuse (Arrowood, 1992). School-related factors are the youth's sense of connectedness to the school (CSAP, 1993), favorable attitudes of students toward drug use, availability of ATODs at school (CSAP, 1993); and rejection by school peers (Benard, 1990; Thomas and Hsiu, 1993).

Community risk factors include the availability of ATODs (Barea, Teichman, and Rahav, 1992; BJS, 1992; Chin, Lai, and Rosue, 1990–91; Laurs, 1990-91; ONDCP, 1992), sociocultural norms related to ATOD use (Cronin, 1993, Gilbert, 1992; Pryor, 1992), poverty and economic conditions (Greenwood, 1992; Janlert and Hammarstrom, 1992; Johnson, 1990–91; NCC, 1991; Pryor, 1992), and violence and crime (Greenwood, 1992; NCC, 1991).

In Exhibit 1-1, the double-headed arrows represent transactional processes between and among the levels. For example, peers and community norms may influence individual behavior; similarly, family may influence the individual and also be influenced by community variables such as employment. A parent's own socioeconomic status or level of educational attainment may influence how empowered he or she feels to affect community social or political change. For example, a single woman with children who is reliant on subsidized housing may not feel that she can approach neighborhood association leaders or city officials to rid her neighborhood of drug dealers. Her lack of social status and reliance on public resources reduce her feelings of power and expectations for substantive change.

Risk factors have an additive effect on the likelihood of ATOD use. That is, as the number of risk factors increases, the likelihood of ATOD use increases. In addition, risk factors may have a differential impact on ATOD use depending on the psychological development of the individual. For instance, school and peer risk factors may have a stronger relationship to ATOD use for youth ages 13–17, whereas family and individual risk factors may be more important for youth ages 7–12. The risk and protective factor model is a synergistic, not static, model. This information is important when planning prevention programs that target different populations.

Protective factors are not simply the opposite of risk factors. Protective factors involve providing opportunities for pro-social involvement or bonding and rewards for such involvement within the family, school, and community.

Many of the risk factors listed above are not necessarily amenable to direct intervention. Thus, protective factors that moderate the impact of these risk factors are very important in efforts to prevent ATOD use. The major premise of the framework is that the reduction of risk factors and enhancement of protective

factors will reduce the incidence of ATOD use. Indeed, the first prevention principle cited by The National Institute of Drug Abuse is that prevention programs should be designed to reduce known risk factors and enhance protective factors (National Institute of Drug Abuse, 1997).

1.2 Approaches to ATOD Prevention

Although the science supporting prevention efforts has improved considerably and more programs are challenged by funders to implement evidence-based practices, there remain gaps in knowledge about the effectiveness of prevention efforts. The Institute of Medicine (IOM) (IOM, 2001) notes that most studies of effectiveness have focused on school-based programs. Of the reviews and meta-analyses published in the past decade, which suggest that prevention programs are effective, these may be biased by the fact that published studies tend to review effective programs. Peer-reviewed journals may be less likely to publish studies reporting limited or no effects. Finally, the IOM notes that criteria for effectiveness require only a single significant finding from a group of measures (IOM, 2001).

The preponderance of approaches employed to prevent ATOD use among youth follow a basic public health problem-response approach that includes (1) defining the problem, (2) identifying risk and protective factors, (3) identifying and implementing interventions, and (4) program evaluation. The problem definition stage includes rigorous assessment of risk, protection, and outcomes at the community level with the goal of identifying areas exposed to the highest overall levels of aggregate risk and the lowest levels of protection. Once the community identifies and defines risk and protective factors, it must work collaboratively to prioritize risk and protective factors to design effective prevention strategies (Hawkins, 2001).

CSAP reports that effective prevention programs apply certain principles at the individual, peer, family, school, and community levels (CSAP National Center for the Advancement of Prevention, 2000). Within the individual/peer domain, attitudes against use appear to be necessary, but by themselves are not sufficient. Effective interventions focus on social and personal skills, as well as peer role models. At the family level, model programs emphasize family bonding and target children of ATOD-abusing parents. Within the school domain, effective CSAP programs have targeted teacher training and established mentoring programs, and community-level interventions that work target norms and involve multiple agencies (CSAP, 2001; CSAP National Center for the Advancement of Prevention, 2000). CSAP reviews its prevention grantee programs annually and selects model programs based on specific criteria. Information about these programs is available in CSAP publications and on the CSAP Web site, www. Samhsa.gov/centers/CSAP/CSAP.htm/.

Because social development prevention strategies are based on community-wide indicators, interventions at each of the domain levels are designed to address specific risk and protective factors across a range of developmental periods, which are dependent upon identified and prioritized community needs. At the

individual/peer level, a community may choose to address risks associated with peer group use of ATODs. Strategies that target younger children might include parent training and classroom curricula to promote social competence. For older children, a program might implement peer mentoring in high schools. At the family level, programs may incorporate prevention programs during the prenatal period to counteract problems associated with a family history of ATOD use and antisocial behaviors. Because academic failure during the late elementary years has been shown to predict ATOD abuse later in life, programs may employ prenatal and infancy programs, early childhood education, and parent education for the youngest age groups and youth employment and education for high school-age youth. To counteract community norms favorable to ATOD use and antisocial behaviors, prevention programs may use classroom curricula and encourage the development of new community norms regarding ATOD use (Social Development Research Group, 1994–2001).

1.3 Social Indicators

The Social Indicator Database was designed to collect 42 social indicators that measure 9 risk factors related to ATOD use and 5 adolescent problem behaviors (i.e., outcomes). The social indicators of interest are based on the literature described above and were validated by CSAP. The risk factors and outcomes are describe below:

1.3.1 *Risk Factors*

- Individual/Peer Domain:
  - *Early Initiation of Drug Use*—Beginning to use ATODs at a young age (e.g., youth who use alcohol before the age of 15 are four times more likely to develop alcohol dependence than those who begin drinking at age 20 and older; and each additional year of delayed drinking onset reduces the probability of alcohol dependence by 14 percent [Grant, BF and Dawson, DA, 1997]).
- Family Domain
  - *Family Management Problems*—Little monitoring of children's behavior or no clear rules/expectations for behavior;
  - *Family Conflict*—Frequent engagement in verbal abuse, serious arguments between family members, and unresolved family arguments; and
  - *Family History of Substance Abuse*—Substance use by family members (both adults and siblings).
- School Domain:
  - *Low Commitment to School*—School is not an important part of the youth's life (e.g., believing that schoolwork is not meaningful or interesting and the youth has very little connection to or involvement in school life).
- Community Domain:

- *Availability of Drugs*—The relative ease with which youth can obtain alcohol, tobacco, or other drugs;
- *Low Neighborhood Attachment*—The lack of connection or commitment to the neighborhood or personal investment in staying in the neighborhood;
- *Transitions and Mobility*—Reporting high rates of movement from one community or home to another or from one school to another;
- *Extreme Economic and Social Deprivation*—High rates of the population who receive financial assistance and/or are unemployed.

1.3.2 *Outcomes*

- *Substance Use*—Youth use of alcohol, tobacco, or other drugs;
- *Violent Crime*—Youth engagement in violent criminal behaviors;
- *Nonviolent Crime*—Youth engagement in non-violent criminal behaviors;
- *Suicide*—Youth engagement in suicidal behavior; and
- *Sexual Behavior*—Youth engagement in sexual behavior.

Social indicators are aggregate measures that "tap into" constructs of interest. Since the early 1960s, researchers have used indicators to estimate the prevalence of a particular problem (e.g., substance abuse, crime, or economic well-being). In general, substance abuse indicators are compiled in order to assess the geographic distribution of related problems for the purpose of targeting prevention, intervention, and treatment programs (Kamis-Gould and Minksy, 1995).

The use of social indicators can have a number of advantages over other techniques because they are easily obtainable, they are objective, and they capture information at the local level in a cost-effective manner. In addition, estimates of risk factors and ATOD prevalence can be easily updated without the cost or barriers typically associated with survey methodology. Additionally, social indicator data also avoid the biases inherent in self-report measures.

Social indicator data can complement information collected through survey methods because the data provide information at a different level of analysis. Social indicator data provide an index of activities within a community system, while survey data provide an index of individual activities within a community (Bauer, 1966). Social indicator data increase the accuracy of estimates by providing another measure of the construct of interest. Thus, social indicator data can be used together with survey data to gain a more accurate understanding of a community system.

The following chapters describe the Social Archival Indicator Study methodology; present findings related to specific indicators, trends, and risk profiles for each of the Health Planning Regions (HPRs) in Virginia; and summarize the findings and present implications for prevention planning in each of Virginia's HPRs.

2. METHODOLOGY

The development of the Social Indicator Database involved four steps: (1) identification of the indicators of interest, (2) identification of data sources and availability, (3) data collection, and (4) data cleaning and coding.

2.1 Indicators of Interest

The *Validated Archival Social Indicators* were the indicators of interest in the current study, and were selected and validated by the Six-State Consortium based on their predictive ability and availability in Commonwealth and local agencies. There are 42 indicators that are part of the Validated Archival Social Indicators. However, two indicators that measure the risk factor Family Conflict, *domestic violence arrests* and *divorce*, were not collected in Virginia by any Commonwealth agencies; therefore, two other indicators, *the number of reported child abuse/neglect cases* and *runaway arrests*, were substituted. These two indicators were selected because they have been found to measure the risk factor Family Conflict in other risk models (i.e., Communities That Care). Altogether, 42 individual indicators were collected that measure 9 risk factors and 5 outcome problem behaviors. The risk factors are categorized into four life domains: individual/peer, family, school, and community. Exhibit 2-1 lists the selected social indicators, the operational definitions of the social indicators, and the associated risk factors and outcome problem behaviors.

Exhibit 2-1
Selected Social Indicators

Risk Factor and Associated Social Indicator	Operational Definition
Individual/Peer Domain	
Early Initiation of Problem Behavior	
Dropouts Prior to 9th Grade	Rate of students (grades 7–8) who drop out of school prior to 9th grade, per 1,000 students (grades 7–8)
Vandalism Arrests Age 10–14	Rate of youth (age 10–14) arrested for vandalism (including residence, non-residence, vehicle-venerated objects, police cars, or other), per 1,000 youth
Alcohol-Related Arrests Age 10–14	Rate of youth (age 10–14) arrested for alcohol violations (DUI, public drunkenness, liquor law violations), per 1,000 youth (age 10–14)
Personal & Property Crime Arrests Age 10–14	Rate of youth (age 10–14) arrested for personal (criminal homicide, aggravated assault, robbery, rape) and property (burglary, larceny theft, arson, motor vehicle theft) crimes, per 1,000 youth (age 10–14)
Family Domain	
Family History of Substance Abuse	
Adults in AOD Treatment Programs	Rate of unduplicated number of adults in State-supported AOD treatment programs, per 1,000 population
Family Management Problems	
Children Living Away From Parents	Rate of youth (age 0–17) living in home situations other than with one

Risk Factor and Associated Social Indicator	Operational Definition
	or both parents or guardians, per 1,000 youth (age 0–17)
Children Living In Foster Care	Average daily rate of youth (age 0–17) living in State-supervised, family-based foster care, per 1,000 youth (age 0–17)
Family Conflict	
Child Abuse/Neglect	Rate of reported cases of child abuse/neglect, per 1,000 youth (ages 0–17)
Runaway Arrests	Rate of juvenile (ages 10–17) arrests for running away, per 1,000 juveniles (ages 10–17)
School Domain	
Low Commitment to School	
Event Dropouts	Percentage of students (grade 9–12) who drop out of school in a single year
Status Dropout	Percentage of youth (age 16–19) who have not completed high school and are not enrolled in school, regardless of when they dropped out
Community Domain	
Availability of Drugs	
Alcohol Sales Outlets	Rate of retail alcohol sales outlets, per 100,000 population
Alcohol Net Sales	Yearly Net Sales of Alcohol Beverage Control (ABC) retail stores, per 100,000 population
Tobacco Sales Outlets	Estimate of average yearly rate of retail tobacco sales outlets, per 100,000 population
Transitions and Mobility	
New Home Construction	Rate of new building permits issued for single and multi-family dwellings, per 1,000 population
Households in Rental Properties	Percentage of all households living in rental housing
Net Migration	Rate of new residents who moved into an area minus residents who moved out, per 1,000 population
Low Neighborhood Attachment	
Population Not Voting in Elections	Percentage of the population registered to vote who do not vote in November general elections
Prisoners in State Correctional System	Rate of new admissions to State prisons, by the committing court, per 100,000 population
Extreme Economic and Social Deprivation	
Free and Reduced Lunch Program (FRLP)	Percentage of students in public schools (K–12) whose applications have been approved for FRLP
Food Stamp Recipient	Average monthly number of food stamp participants per 1,000 population
Unemployment	Percentage of labor force not employed
TANF	Rate of persons participating in the Federal TANF program, per 1,000 population
Adults Without High School Diploma	Percentage of total population, age 25 and older, who report the following level of educational attainment: Grades 9–12, no diploma
Single-Parent Family Households	Percentage of family households with spouse absent

Risk Factor and Associated Social Indicator	Operational Definition
Problem Behavior-Outcome	
Substance Use	
Juvenile Alcohol-Related Arrests	Rate of juvenile (age 10–17) arrests for alcohol violations (DUI, public drunkenness, liquor law violations), per 100,000 juveniles (age 10–17)
Juvenile Drug-Related Arrests	Rate of juvenile (age 10–17) arrests for drug violations (possession, sale, use, cultivating, and manufacturing of illegal drugs), per 100,000 juveniles (age 10–17)
Adult Alcohol-Related Arrests	Rate of adult (age 18 or older) arrests for alcohol violations (DUI, public drunkenness, liquor law violations), per 100,000 adults (age 18 or older)
Adult Drug-Related Arrests	Rate of adult (age 18 or older) arrests for drug violations (possession, sale, use, cultivating, and manufacturing of illegal drugs), per 100,000 adults (age 18 or older)
Alcohol-Related Traffic Fatalities	Percentage of all traffic fatalities related to alcohol
Adult DUI Arrests	Rate of adult (age 18 or older) arrests for DUI, per 100,000 adults (age 18 or older)
Drug Use During Pregnancy—AOD Treatment	Rate of pregnant women receiving AOD treatment from State-supported treatment centers, per 1,000 live births
Drug Use During Pregnancy—Birth Records	Rate of pregnant women who report use of ATODs on birth records, per 1,000 live births
Violent Crime	
Juvenile Arrests for Violent Crimes	Rate of juvenile (age 10–17) arrests for violent crimes (murder, aggravated assault, robbery, rape), per 100,000 juveniles (age 10–17)
Adult Arrests for Violent Crimes	Rate of adult (age 18 or older) arrests for violent crimes (murder, aggravated assault, robbery, rape), per 100,000 adults (age 18 or older)
Homicides	Rate of homicide victims, per 100,000 population
Nonviolent Crime	
Juvenile Arrests for Curfew, Vandalism, and Disorderly Conduct	Rate of juvenile (age 10–17) arrests for curfew, vandalism, and disorderly conduct, per 100,000 juveniles (age 10–17)
Juvenile Arrests for Property Crimes	Rate of juvenile (age 10–17) arrests for property crimes (burglary, larceny, arson, motor vehicle theft), per 100,000 juveniles (age 10–17)
Adult Arrests for Property Crimes	Rate of adult (age 18 or older) arrests for property crimes (burglary, larceny, arson, motor vehicle theft), per 100,000 adults (age 18 or older)
Adolescent Suicide	
Adolescent Suicide	Rate of completed suicides by youth (age 10–17) per 1,000 juveniles (age 10–17)
Adolescent Sexual Behavior	
Adolescent Pregnancies	Rate of pregnancies to female youth (age 10–17), per 1,000 female youth (age 10–17)
Adolescent Live Births	Rate of live births to female youth (age 10–17), per 1,000 female youth (age 10–17)

2.2 Unit of Analysis

2.2.1 *Geographic Region*

Data for the Social Indicator Database were collected at the local (city/county) level. There are 135 localities in the Commonwealth of Virginia. For the majority of social indicators, there were 135 data-points that corresponded with the 135 localities for each social indicator; however, not all data sources collected data on all 135 localities. A small number of data sources combined the data for some localities (i.e., the data for some cities or counties were subsumed into other localities). There are eight social indicators for which data were only available for 133 or 134 localities. Exhibit 2-2 lists these indicators and provides a description of the discrepancies in geographic reporting. Locality data were subsequently aggregated to the Community Service Board (CSB), Health Planning Region (HPR), and Urban/Rural levels for further analysis.

Exhibit 2-2
Discrepancies in Geographic Reporting of Social Indicator Data

Social Indicator	Discrepancy
Free & Reduced Lunch Program Recipients	• Bedford City is subsumed in Bedford County • Emporia is subsumed in Greensville • Fairfax City is subsumed in Fairfax County • James City is subsumed in Williamsburg
Event Dropouts	• Bedford City is subsumed in Bedford County • Clifton Forge is subsumed in Alleghany Highlands • Emporia is subsumed in Greensville • Fairfax City is subsumed in Fairfax County • James City is subsumed in Williamsburg
Dropouts Prior to 9th Grade	• Bedford City is subsumed in Bedford County • Clifton Forge is subsumed in Alleghany Highlands • Emporia is subsumed in Greensville • Fairfax City is subsumed in Fairfax County • James City is subsumed in Williamsburg
Children Living in Foster Care	For years 1996–1998 • Salem is subsumed in Roanoke County
TANF Recipients	• Bedford City is subsumed in Bedford County • Fairfax City and Falls Church are subsumed in Fairfax County • Salem is subsumed in Roanoke County • Emporia is subsumed in Greensville • Poquoson is subsumed in York
Food Stamp Recipients	For years 1996–1998 • Salem is subsumed in Roanoke County For years 1999–2000 • Alleghany County is subsumed in Covington • Augusta County is subsumed in Staunton • Bedford City is subsumed in Bedford County • Buena Vista and Lexington are subsumed in Rockbridge County • Colonial Heights is subsumed in Chesterfield County • Emporia is subsumed in Greensville • Fairfax City and Falls Church are subsumed in Fairfax County

Social Indicator	Discrepancy
Food Stamp Recipients *(continued)*	• Poquoson is subsumed in York County • Salem is subsumed in Roanoke County
Child Abuse/Neglect Cases	• Fairfax City is subsumed in Fairfax County • Salem is subsumed in Roanoke County
Alcohol Net Sales	• In the year 2000, net sales for Williamsburg was subsumed in James City County

2.2.2 *Annual Data*

Aggregated annual data for each social indicator were collected. Data for the Social Indicator Database were collected for the years 1996–2000. The data were compiled for a period of 5 years for two reasons. First, aggregating the 5 years of data produced more reliable estimates for each social indicator in comparison to a single year. Second, examination of 5 years of data allows for the identification of trends in the social indicators across time. Not all data were available for the years 1996–2000. In some cases, data had not been released at the time of data collection. The following is a list of the social indicators for which data were not available for all 5 years:

- *Early dropouts*—Data were not available for 1999–2000;
- *Vandalism arrests* (ages 10–14)—Data were not available for 2000;
- *Alcohol-related arrests* (ages 10–14)—Data were not available for 2000;
- *Person/property arrests* (ages 10–14)—Data were not available for 2000;
- *Children living in foster care*—Data were not available for 1998;
- *Event dropouts*—Data were not available for 2000;
- *Status dropouts*—Data were only available for 1990;
- *Tobacco sales outlets*—Data were only available for 2000;
- *New home construction*—Data were incomplete for the year 2000 and thus discarded;
- *Net migration* data—Only one data-point was available on migration for the years 1990–1999;
- *Adults without a high school diploma*—Data were only available for 1990;
- *Drug use during pregnancy* (birth records)—Data were not available for 2000;
- *Adolescent suicide*—Data were not available for 2000;
- *Adolescent pregnancies*—Data were not available for 2000; and
- *Adolescent birthrate*—Data were not available for 2000.

2.3 Procedures

2.3.1 *Data Collection*

The Social Indicators Study involved collecting aggregate data from various Commonwealth and Federal agencies. The first step in this process was to identify data sources for the 42 social indicators. Agency Web sites and a *Virginia Data Source Book* compiled by the Virginia Department of Juvenile Justice were used to identify potential sources for social indicator data. Source information included the relevant agency and contact information on the appropriate data manager. Eight Commonwealth agencies and one Federal agency were identified as potential sources for the social indicator data. See Exhibit 2-3 for a list of data sources. Subsequent to source identification, data managers were sent a letter that described the Needs Assessment Family of Studies, in particular the Social Indicator Database (see Appendix A). In addition, the letter indicated that the project coordinator would contact the data manager in the near future to request specific social indicator data. Two weeks following the mailing of the letter, data managers were called to request specific social indicator data.

2.3.2 *Data Format*

The format of data available depended on the agency, the year of data, and the specific social indicator. For the years 1996–1998, the majority of agencies simply sent hard copies of the data (generally from annual reports). Data from hard copies were entered manually into the database. A small number of agencies maintained the data in a spreadsheet (e.g., Microsoft Excel or Access). These agencies e-mailed the relevant data or, in the case of the Virginia State Police, sent it on a diskette. Data sent in a spreadsheet were imported into the existing database. Two agencies maintained the data on their Web site. These data were downloaded and then imported into the existing database.

For the years 1999–2000, the majority of data were available on agency Web sites. These data also were downloaded and imported into the database. See Exhibit 2-3 for specific details regarding the format for each social indicator.

2.3.3 *Data Cleaning*

An initial examination of the data was conducted for out-of-range values, which were identified using SPSS. Any out-of-range values were corrected by two means. First, the original data set was checked to determine if the value was a data entry/importation error. Second, if the value was not the result of a data entry error, the appropriate agency was contacted to determine if the value was incorrect.

Then an examination of the data was conducted to identify missing values. Following the identification of missing values, the data sources were contacted to determine the validity of the missing data. Data were missing for two reasons. One reason was because some agencies did not report data that equaled zero. In these instances, a zero was substituted for the missing (null) value. The second

reason was due to geographic discrepancies in data reporting. That is, for cases in which the data for one locality is subsumed within another, the value for the subsumed locality was null or missing.

Finally, graphs of each social indicator across the 5 years for each locality were examined to identify any values that significantly deviated from the overall trend in data observed across those 5 years. The data were checked with the original source to determine if the observed incongruity was due to a data entry/importation error. All errors were corrected.

Note that arrest data for the years 1999 and 2000 were incomplete for some localities. In 1999, the following sources submitted incomplete data:

- Alleghany County Sheriffs Office;
- Appalachia Police Department (Wise Co.);
- Boykins Police Department (Southampton Co.);
- Burkeville Police Department (Nottaway Co.);
- Damascus Police Department (Washington Co.);
- Gate City Police Department (Scott Co.);
- Grottoes Police Department (Rockingham Co.);
- Hurt Police Department (Pittsylvania Co.);
- Quantico Police Department (Prince William Co.);
- Buena Vista City Police Department;
- Chesapeake City Police Department;
- Hopewell City Police Department; and
- Petersburg Police Department.

In 2000, the following sources submitted incomplete data:

- Charles City County Sheriffs Office;
- Culpepper County Sheriffs Office;
- King & Queen County Sheriffs Office;
- Appalachia Police Department (Wise Co.);
- Bowling Green Police Department (Caroline Co.);
- Burkeville Police Department (Nottoway Co.);
- Damascus Police Department (Washington Co.);
- Exmore Police Department (Northampton Co.);
- Fries Police Department (Grayson Co.);
- Grottoes Police Department (Rockingham Co.);
- Haysi Police Department (Dickenson Co.);
- Hillsville Police Department (Carroll Co.);
- Kilmarnock Police Department (Lancaster Co.);
- LaCrosse Police Department (Mecklenburg Co.);
- Parksley Police Department (Accomack Co.);
- Pennington Gap Police Department (Lee Co.);
- Pocahontas Police Department (Tazewell Co.);
- Quantico Police Department (Prince William Co.);
- Rich Creek Police Department (Giles Co.);
- Rural Retreat Police Department (Wythe Co.);

- Strasburg Police Department (Shenandoah Co.);
- Warsaw Police Department (Richmond Co.);
- Waverly Police Department (Sussex Co.);
- Alexandria Police Department;
- Chesapeake Police Department;
- Danville Police Department;
- Falls Church Police Department;
- Radford Police Department; and
- Waynesboro Police Department.

Exhibit 2-3
Data Source and Format

Social Indicator	Data Source	Data Format
Dropouts Prior to 9th Grade	Virginia Department of Education	Excel spreadsheet
Vandalism Arrests 10–14	Virginia State Police	1996–1999—CD
Alcohol-Related Arrests 10–14	Virginia State Police	1996–1999—CD
Person/Property Arrests 10–14	Virginia State Police	1996–1999—CD
Adults in AOD Treatment Programs	Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services	Excel spreadsheet
Children Living Away From Parents	U.S. Census	1990—Hard Copy 2000—Agency Web site
Children Living in Foster Care	Virginia Department of Social Services—Foster Care	Hard copy
Child Abuse/Neglect Cases	Virginia Department of Social Services—CPS	Excel spreadsheet
Runaway Arrests	Virginia State Police	1996–1999—CD
Event Dropouts	Virginia Department of Education	1996–1998—Hard copy 1999–2000—Agency Web site
Status Dropouts	U.S. Census	1990—Hard copy
Alcohol Sales Outlet	Virginia Department of Alcohol Beverage Control	1996–1999— Hard copy 2000—Agency Web site
Alcohol Net Sales	Virginia Department of Alcohol Beverage Control	1996–1999—Hard copy 2000—Agency Web site
Tobacco Sales Outlet	Virginia Department of Health—Tobacco Use Program	Excel spreadsheet
New Home Construction	Weldon Cooper Center	Agency Web site
Households in Rental Properties	U.S. Census	1990—Hard copy 2000—Agency Web site
Net Migration	U.S. Census	Agency Web site
Population Voting in Elections	Virginia Commonwealth Board of Elections	1996–1999—Hard copy 2000—Agency Web site
Prisoners in State Correctional Systems	Virginia Department of Corrections	Excel spreadsheet
Unemployment	Virginia Employment Commission	1996–1999—Hard copy (ALICE) 2000—Agency Web site
Free and Reduced Lunch Program	Virginia Department of Education	Excel spreadsheet

Social Indicator	Data Source	Data Format
TANF	Virginia Department of Social Services—Benefits	Excel spreadsheet
Food Stamps	Virginia Department of Social Services—Benefits	Excel spreadsheet
Adults Without High School Diploma	U.S. Census	Hard copy
Single-Parent Family Households	U.S. Census	1990—Hard copy 2000— Agency Web site
Juvenile Alcohol-Related Arrests	Virginia State Police	1996–1999—CD 2000—Agency Web site
Juvenile Drug-Related Arrests	Virginia State Police	1996–1999—CD 2000—Agency Web site
Adult Alcohol-Related Arrests	Virginia State Police	1996–1999—CD 2000—Agency Web site
Adults Drug-Related Arrests	Virginia State Police	1996–1999—CD 2000—Agency Web site
Adult DUI	Virginia State Police	1996–1999—CD 2000—Agency Web site
Alcohol-Related Traffic Fatalities	Virginia Department of Motor Vehicles	1996–1998—Hard copy 1999–2000—Agency Web site
Drug Use During Pregnancy—AOD Treatment	Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services	Excel Spreadsheet
Drug Use During Pregnancy—Birth Certificates	Virginia Department of Health—Vital Statistics	Hard copy
Juvenile Arrests for Violent Crimes	Virginia State Police	1996–1999—CD 2000—Agency Web site
Adult Arrests for Violent Crimes	Virginia State Police	1996–1999—CD 2000—Agency Web site
Homicides	Virginia Department of Health—Vital Statistics	Hard copy
Juvenile Arrests for Curfew, Vandalism, and Disorderly Conduct	Virginia State Police	1996–1999—CD 2000—Agency Web site
Juvenile Arrests for Property Crimes	Virginia State Police	1996–1999—CD 2000—Agency Web site
Adults Arrests for Property Crimes	Virginia State Police	1996–1999—CD 2000—Agency Web site
Adolescent Suicide	Virginia Department of Health—Vital Statistics	Hard copy
Adolescent Pregnancies	Virginia Department of Health—Vital Statistics	Hard copy
Adolescent Live Births	Virginia Department of Health—Vital Statistics	Hard copy

2.3.4 *Data Coding*

Locality data were aggregated to the CSB, HPR, and urban/rural levels. Social indicators were calculated for the 40 CSBs, 5 HPRs and urban and rural

geographic regions. Net migration data could not be calculated at the CSB, HPR, or urban/rural level. Data on net migration were only available as a rate at the local level and, therefore, could not be aggregated

2.3.5 *Social Indicators*

Social Indicator data were calculated for localities, CSBs, HPRs, and urban/rural regions. Percentages were calculated by dividing the actual number by the population. Rates were calculated by dividing the actual number by the population, then dividing by 1,000 or 100,000. Data tables of the social indicators by locality and the Commonwealth average were developed. These data were placed on the Virginia Department of Mental Health, Mental Retardation, and Substance Abuse Services Web site (see http://www.dmhmrsas.state.va.us/Organ/CO/ Offices/ORE/Prevention.asp). Please see Appendix B for social indicator trends by urban/rural areas.

2.3.6 *Risk and Outcome Indices*

Risk factor and outcome indices were calculated to obtain more reliable and informative information in comparison to single social indicators. To compute indices, the individual social indicators were first converted to Z scores. (Z scores are standardized scores that indicate how far and in what direction a score deviates from the mean. In the case of the social indicators, Z scores were utilized to determine how far the indices deviated from the Commonwealth average.) The Z scores of the individual social indicators were then aggregated to form the appropriate index. The social indicators and the respective indices for the risk factors and outcome problem behaviors are described in Exhibit 2-1.

2.3.7 *Reliability*

The reliability of each index was calculated to determine how well each social indicator measured the relevant risk factor or outcome index. Chronbach's alpha was calculated on each index. Items that reduced the overall alpha of an index below .70 were thrown out. The following items were deleted from their respective index:

The index Low Commitment to School was based on the aggregation of the social indicators *event dropouts*, and *status dropouts*. The social indicator *status dropouts* reduced the overall reliability of the index from $\alpha = .89$ to $\alpha = .42$. Thus, *status dropouts* was excluded from the Low Commitment to School index ($\alpha = .89$).

An index for the outcome problem behavior Adolescent Suicide, based on the social indicator *adolescent suicides*, was not calculated due to low reliability ($\alpha = -.15$).

Two social indicators, *foster care* and *children living away from parents*, were combined to form the index Family Management. However, the reliability of the Family Management index was low, but not due to any one social indicator ($\alpha = .51$). Therefore, the Family Management index was divided into two indices,

one for *foster care* indicators ($\alpha = .95$) and one for *living away from parents* ($\alpha = .90$). A multiple regression procedure was calculated using the two indices to predict the outcome problem behavior substance abuse. This procedure was used to avoid confusion that may have arisen from using two separate indices for one risk factor. The index Foster Care was a statistically significant predictor of substance use, while the index Children Living Away from Home was not. Therefore, the Family Management index was calculated using only the *foster care* social indicators; the *children living away from home* social indicator was excluded from the index.

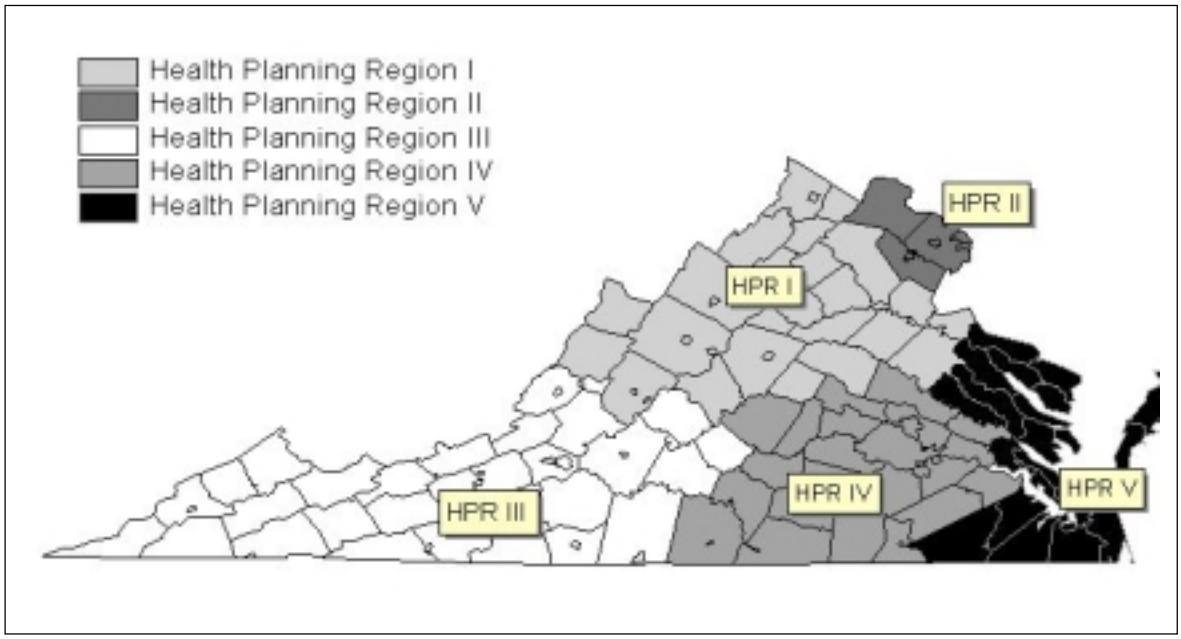
Based on the reliability results, indices were calculated for nine risk factors and four outcome problem behaviors. Risk profiles were then developed using the indices. In the following discussion, the results of the risk profiles for HPRs I–V will be discussed.

Please refer to Appendix C for risk profiles on the CSBs.

3. FINDINGS

This section presents the findings of the Social Indicator Study. Data are presented at the HPR and Commonwealth level. Exhibit 3-1 indicates the geographic areas encompassed in the five HPRs.

Exhibit 3-1
Health Planning Regions of Virginia



The social indicators are first presented in this section as trend data and then as risk profiles based on standardized risk factor and outcome indices.

3.1 Trend Data

A difficulty inherent in assessing trend data is how to determine what constitutes a salient or problematic risk factor. Is a rate of eight alcohol-related arrests per 100,000 youth too high, or is one alcohol-related arrest too high? One method to objectively determine what social indicators are problematic is to compare regional estimates to a benchmark. In the following section, trend data for the five HPRs will be presented along with the Commonwealth average (i.e., the average of the HPRs) for comparison purposes. National rates are also discussed when available. Social indicators that fall above the Commonwealth average are considered salient or problematic.

3.2 Individual/Peer Domain

The following section presents findings for social indicators within the individual/peer domain.

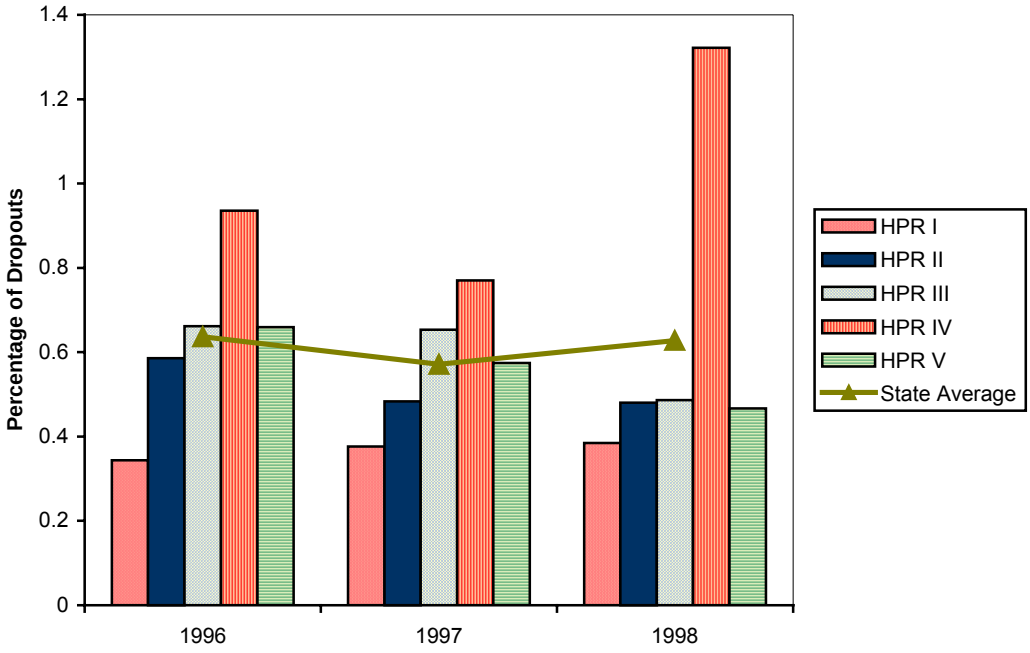
3.2.1 *Early Initiation of Problem Behavior*

Four social indicators were collected to measure the risk factor Early Initiation of Problem Behavior: *dropouts prior to 9th grade, vandalism arrests of 10–14-year- olds, alcohol-related arrests of 10–14-year-olds*, and *person/property arrests of 10–14-year--olds*.

Early dropouts—Exhibit 3-2 displays the percentages of 7th and 8th grade students who dropped out of school. Across the 3 years, the percentage of 7th and 8th grade dropouts never exceeded 1 percent (excluding HPR IV). The overall trend indicates that dropouts prior to 9th grade remained relatively stable. However, this overall trend is deceiving upon closer examination of the trends within each HPR. While the percentage of 7th and 8th grade dropouts in HPRs I and II remained relatively stable across the 3 years, a 29 percent decrease in early dropouts was observed in HPR V from .6 percent in 1996 to .4 percent in 1998 and a 26 percent decrease was observed in HPR III from .7 percent in 1997 to .5 percent in 1998. In sharp contrast, the percentage of early dropouts in HPR IV significantly increased by 42 percent from .7 percent in 1997 to 1.32 percent in 1998.

The percentages of 7th and 8th grade dropouts in HPRs I and II remained below the Commonwealth average across all 3 years. Early dropouts in HPRs III and V fluctuated around the Commonwealth average. HPR IV is the only HPR that was consistently above the Commonwealth average on the percentage of early dropouts across all 3 years.

Exhibit 3-2
Percentage of Students (Grades 7–8) Who Drop Out Prior to 9th Grade

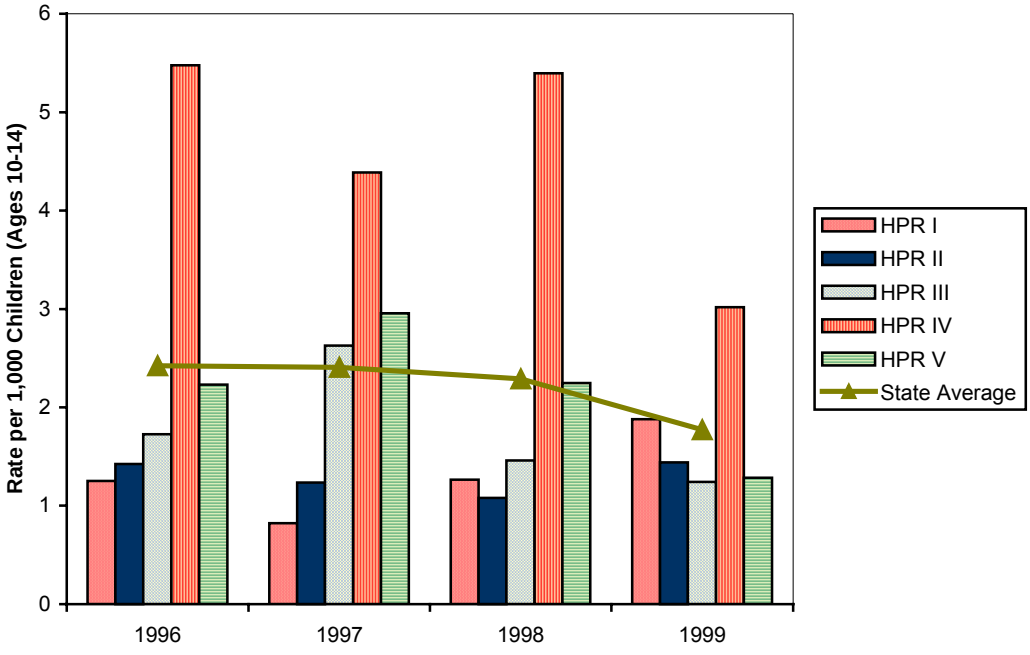


Vandalism arrests (10–14)—The rates of vandalism arrests for youth ages 10–14 per 1,000 are displayed in Exhibit 3-3. The general trend suggests that the rate of

vandalism arrests per 1,000 youth 10–14 is on the decline. The average rate of vandalism arrests decreased 30 percent from 2.42 per 1,000 in 1996 to 1.77 per 1,000 in 1999. The average rate appears relatively stable from 1996 to 1998 with a sharp decline observed between the years 1998 and 1999. Similarly, there was a 45 percent decrease in the vandalism rate in HPR IV from 5.45 per 1,000 in 1996 to 3.02 per 1,000 in 1999. However, this trend was not observed in all five HPRs. There does not appear to be any consistent trend across any of the other four HPRs. Vandalism arrest rates in HPR I actually increased 33 percent from 1.25 per 1,000 in 1996 to 1.88 per 1,000 in 1999. In HPR V, vandalism arrest rates increased from 2.23 per 1,000 in 1996 to 3.0 per 1,000 in 1997, and then subsequently decreased to 1.28 per 1,000 in 1999.

The rate of vandalism arrests in HPR II was well below the Commonwealth average across all 4 years. Similarly, the rate of vandalism arrests in HPR I was well below the Commonwealth average for the years 1996 to 1998. However, in 1999, the rate of vandalism arrests in HPR I increased and was comparable to the Commonwealth average. In sharp contrast, vandalism arrests for HPR IV were well above the Commonwealth average across all 4 years.

Exhibit 3-3
Rate of Vandalism Arrests for Children Ages 10–14

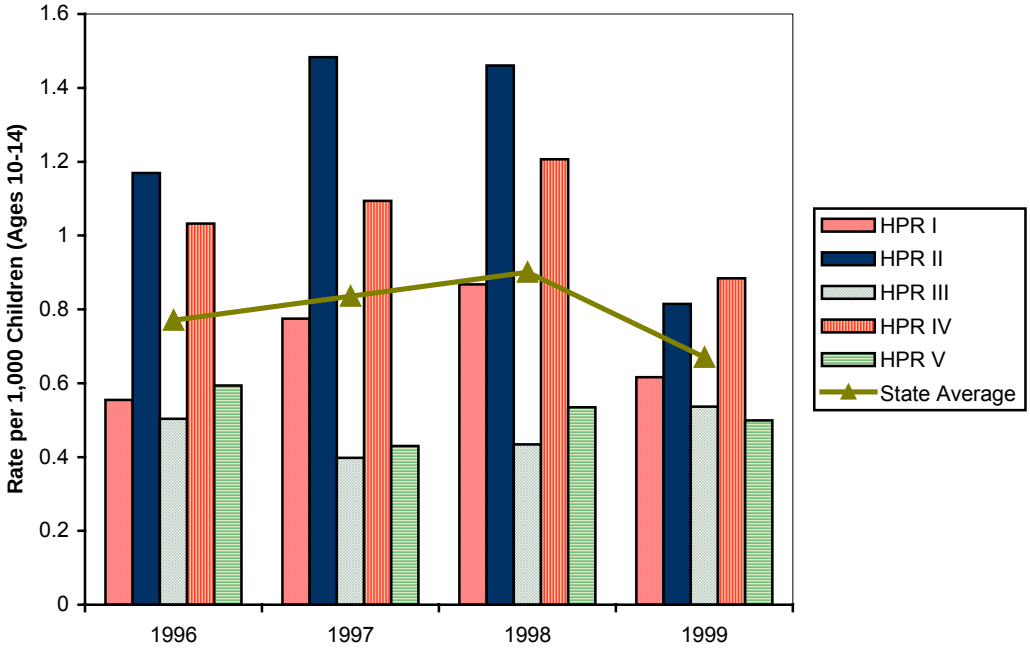


Alcohol-related arrests (10–14)—The rates of alcohol-related arrests for youth ages 10–14 per 1,000 are displayed in Exhibit 3-4. The overall trend reveals a slight increase in the rate of alcohol-related arrests from 1996 to 1998 with a subsequent decline in 1999. The average rate of alcohol-related arrests in youth 10–14 increased by 14 percent from 1996 to 1998 (.77 per 1,000 and .90 per 1,000, respectively). A sharp decline (26%) was observed in the rate of these arrests (.81 per 1,000) in 1999. While a similar pattern is observed for HPRs I, II, and IV, no apparent trend appears for HPRs III and V. The rates of alcohol-related arrests in

HPRs III and V fluctuate between .40 and .60 across the 4 years. The highest rate of alcohol-related arrests in youth 10–14 was observed in HPR II, which peaked at 1.48 per 1,000 in 1997, and then subsequently declined to .81 per 1,000 in 1999.

The rates of alcohol-related arrests in HPRs I, III, and V consistently remained below the Commonwealth average across all 4 report years. The rates of alcohol-related arrests in HPR II and HPR IV were both significantly above the Commonwealth average across all 4 years.

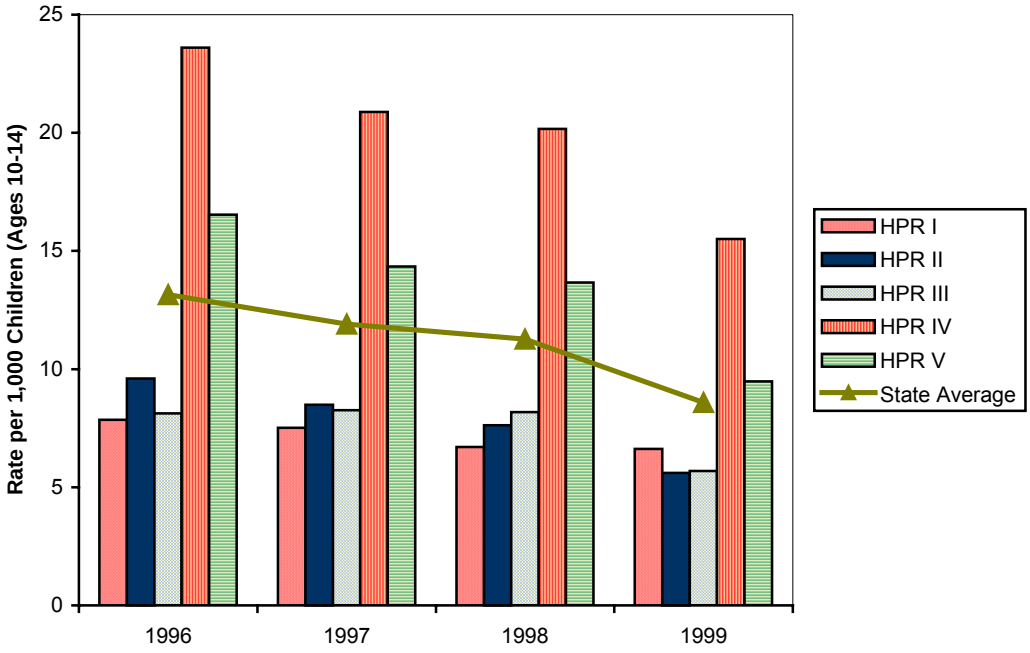
Exhibit 3-4
Rate of Alcohol-Related Arrests for Children Ages 10–14
(DUI, drunkenness, liquor law violations)



Person/property arrests (10–14)—The rates of person/property arrests by youth 10–14 per 1,000 are displayed in Exhibit 3-5. The overall trend denotes that person and property arrests are on the decline. There was a 35 percent decrease in the Commonwealth average rate of person and property arrests for youth aged 10–14 from 1996 to 1999 (13.14 per 1,000 and 8.58 per 1,000, respectively). A similar trend was observed in HPRs II, III, IV and V. However, the rates of person and property arrests in HPR I remained relatively stable. HPR IV had the highest rate of person and property arrests, ranging from 23.60 per 1,000 in 1996 to 15.51 per 1,000 in 1999. HPR V had the second highest rate of arrests, ranging from 16.65 per 1,000 in 1996 to 9.47 per 1,000 in 1999.

The rates of person and property arrests in HPR I, II, and III were significantly below the Commonwealth average. In contrast, the rates of arrests in HPR IV and V were above the Commonwealth average for all 4 years.

Exhibit 3-5
Rate of Person and Property Arrests for Children Ages 10–14
(murder, rape, aggravated assault, robbery, burglary, larceny, arson, motor vehicle theft)



In summary, the general trend for three of the four social indicators that measure the risk factor Early Initiation of Problem Behavior suggests that the rates of these social indicators are on the decline (*vandalism arrests*, *alcohol-related arrests*, and *person/property arrests*). Based on these findings, we may conclude that Early Initiation of Problem Behavior is on the decline. HPR IV was consistently above the Commonwealth average on all four indicators that measure the risk factor Early Initiation of Problem Behavior. Thus, based on the social indicators, this is a salient risk factor for HPR IV.

In HPRs II and V, only one social indicator measuring Early Initiation of Problem Behavior was above the Commonwealth average, *alcohol-related arrests* and *person/property arrests*, respectively. These findings demonstrate that the risk factor Early Initiation of Problem Behavior may be a concern for HPRs II and V. HPR I and III were consistently below the Commonwealth average on the four social indicators, and thus the risk factor Early Initiation of Problem Behavior is not problematic for these two HPRs.

3.3 Family Domain

The following section presents findings for social indicators within the family domain.

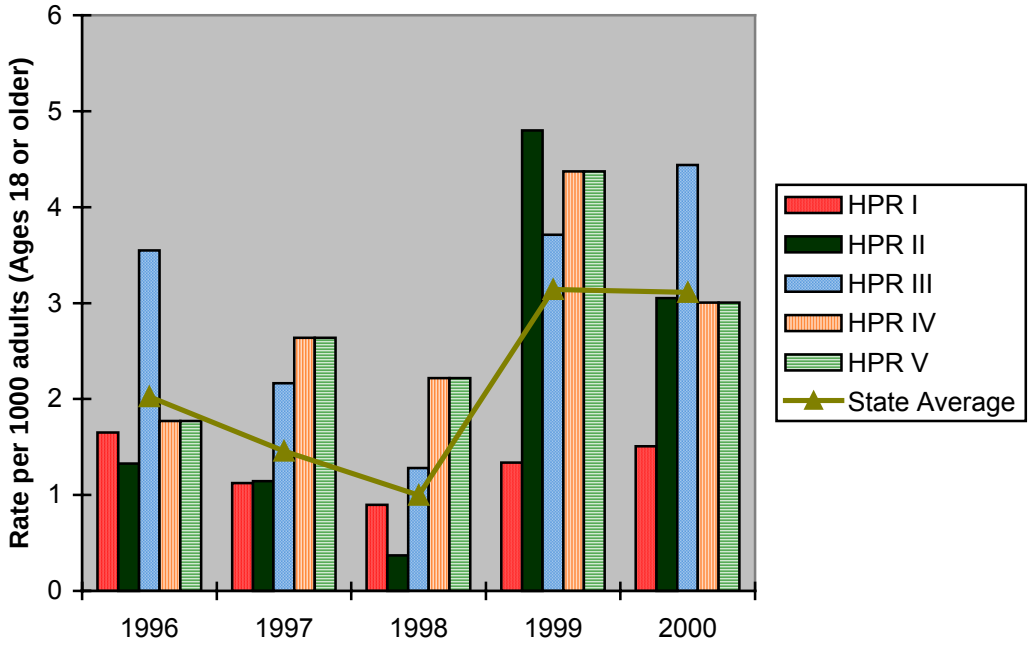
3.3.1 *Family History of Substance Abuse*

Only one social indicator was collected to measure the risk factor Family History of Substance Abuse: *adults receiving State-supported AOD treatment*.

Adults receiving AOD treatment—The rates of adults receiving AOD treatment per 1,000 are displayed in Exhibit 3-6. The overall trend denotes a decline in the rates of adults receiving AOD treatment from 1996 to 1998 with a sharp increase in 1999 at which point the rates appear to stabilize. There was a 50 percent decrease in the average rate of adults receiving State-supported AOD treatment from 2.02 per 1,000 in 1996 to .99 per 1,000 in 1998, with a 68 percent increase in this rate to 3.14 per 1,000 in 1999. A similar trend was observed in HPRs I, II, and III. No consistent pattern was observed in HPRs IV and V.

The overall trend of the social indicator that measures the risk factor Family History of Substance Abuse is on the rise. Therefore, it appears that Family History of Substance Abuse is on the rise. The rate of adults in treatment for HPR III was significantly above the Commonwealth average across all 5 years. The rate of adults in treatment for HPR IV was above the Commonwealth average for three of the 5 years. HPR I was the only HPR consistently below the Commonwealth average across all 5 years, indicating that this risk factor is not a concern in HPR I.

Exhibit 3-6
Rate of Adults Receiving State-Supported AOD Treatment



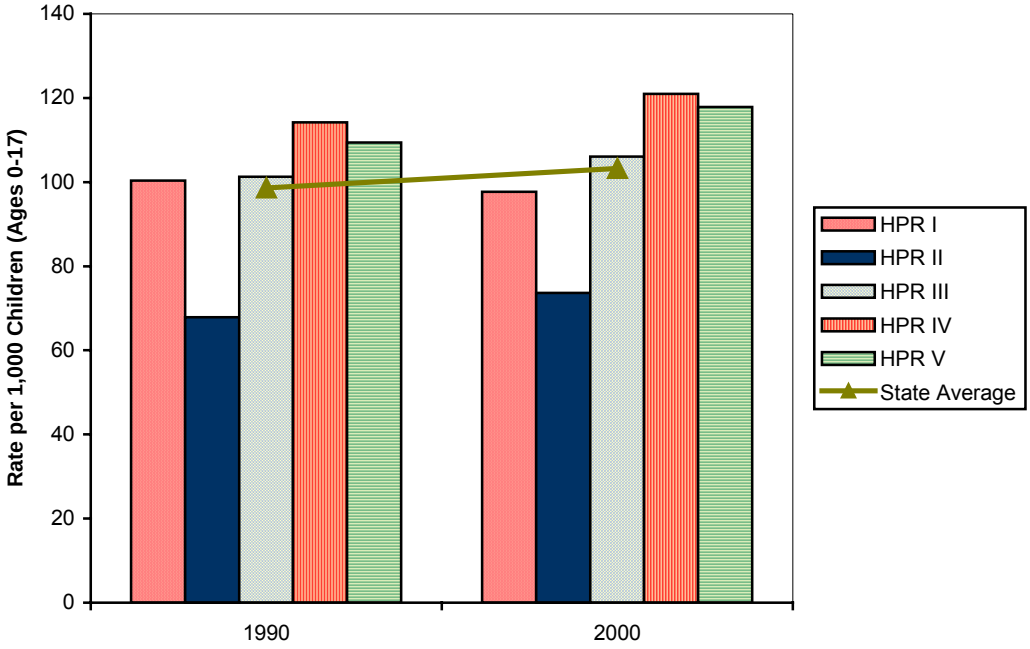
3.3.2 *Family Management Problems*

Two social indicators were collected to measure the risk factor Family Management Problems: *children living in foster care* and *children living away from parents*.

Children living away from parents—The rates of children not living with a parent per 1,000 children are displayed in Exhibit 3-7. The overall trend of the rate of children not living with a parent is stable. This trend was observed in all HPRS. The average rate of children not living with a parent(s) remained relatively stable from 98.63 per 1,000 in 1990 to 103.24 per 1,000 in 2000. This rate was very similar to the national rate of children living away from parents of 106.88 per 1,000 in 2000 (U.S. Census). Differences between HPRs on this indicator appear relatively small. HPR II had the lowest rate of children living away from home, ranging from 67.85 per 1,000 in 1990 to 73.62 per 1,000 in 2000. HPR IV had the highest rate ranging from 114.22 per 1,000 in 1990 to 120.96 per 1,000 in 2000.

The rates of children living away from a parent in HPRS III, IV, and V were slightly above the Commonwealth average across the 10 years. The rate of children living away from home in HPR I fluctuated around the Commonwealth average across the 10 years. HPR II was the only HPR in which the rate of children living away from a parent remained below the Commonwealth average.

Exhibit 3-7
Rate of Children (Ages 0–17) Not Living with Parent(s) or Guardian



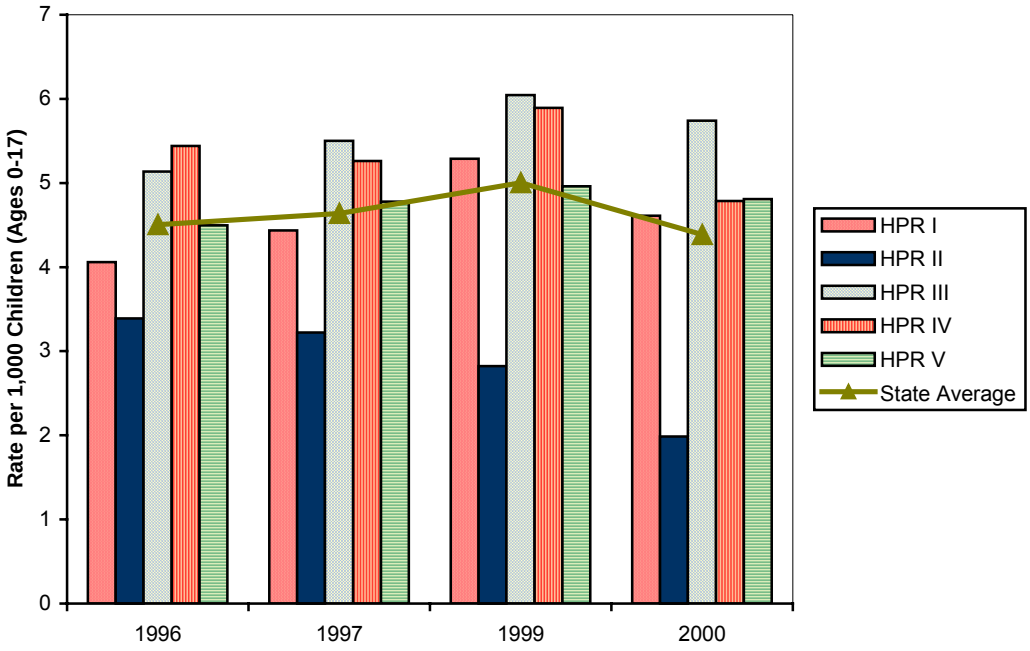
Children living in foster care—The rates of children living in State-supported foster care per 1,000 are displayed in Exhibit 3-8. (Data on children living in foster care in Virginia were not available for the year 1998.) The average rate of

children living in State-supported foster care remained relatively stable from 1996 to 2000 (4.50 per 1,000 in 1996 and 4.38 per 1,000 in the year 2000). While a similar trend is observed in HPRs I, II, IV, and V, the trend in HPR II suggests that the rate of children in foster care is on the decline in this HPR.

National rates on children living in foster care that are available (1996 and 1997) indicate that the Commonwealth average is considerably lower than the national rates (4.5 per 1,000 in the Commonwealth as compared with 7.01 nationally in 1996, and 4.64 per 1,000 in the Commonwealth as compared with 7.42 nationally in 1997 [The Administration for Children and Families]). Among the HPRs, HPR III tended to have the highest rate of all HPRs, ranging from 5.13 per 1,000 in 1996 to 5.73 per 1,000 in 1999. However, these rates were still lower than the national rate.

Consistently, the rates of children living in foster care in HPRs III and IV were above the Commonwealth average across all 4 years. HPR II was the only HPR that was significantly below the Commonwealth average across all 4 years. The rates of children living in foster care in HPRs I and V fluctuated around the Commonwealth average across all 4 years.

Exhibit 3-8
Rate of Children (Ages 0–17) Living in Foster Care



In summary, the general trend for both social indicators that measure the risk factor Family Management Problems denotes that these rates remained stable. Therefore, it appears that overall the trend for the risk factor Family Management Problems is stable. In HPR IV, both social indicators that measure Family Management problems were above the Commonwealth average, demonstrating that Family Management is problematic in this HPR. In contrast, both social indicators were below the Commonwealth average in HPR II, indicating that the risk factor Family Management is not problematic in this

HPR. In HPRs V and III only one of the two social indicators were above the Commonwealth average, (*children living away from home* and *children living in foster care*, respectively), suggesting that this risk factor may be of concern for HPRs V and III.

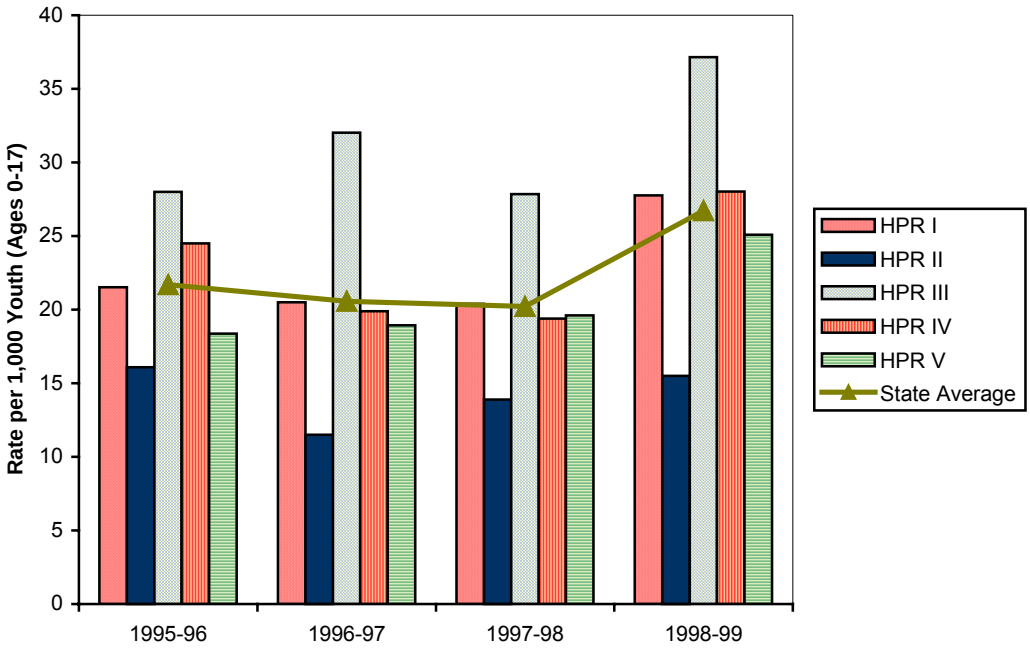
3.3.3 *Family Conflict*

Two social indicators were collected to measure the risk factor Family Conflict: *child abuse/neglect cases* and *runaway arrests*.

Child abuse/neglect cases—The rates of child abuse/neglect cases per 1,000 children are displayed in Exhibit 3-9. The overall trend demonstrates that the rate of child abuse and neglect cases remained relatively stable until 1999. In 1999, the trend indicates that these rates are on the rise. The average rate of reported child abuse/neglect cases remained fairly constant from 1996 to 1998 with a 24 percent increase observed in 1999. A similar trend was observed in all five HPRs. The average rate of child abuse/neglect cases was 21.69 per 1,000 in 1996 and rose to 26.71 per 1,000 in 1999. The average rate in 1999 was considerably lower than the national average of 41.13 per 1,000 in 1999 (Child Maltreatment, 1999, National Clearinghouse on Child Abuse and Neglect Information). HPR III had the highest rate per 1,000 children of child abuse and neglect cases, with a rate of 28.01 per 1,000 in 1996 and 37.16 per 1,000 in 1999. In contrast, HPR II had the lowest rate, with 16.01 per 1,000 cases reported in 1996 and only 15.51 per 1,000 in 1999.

The rate of child abuse and neglect in HPR II was consistently below the Commonwealth average across all 4 years. In contrast, the rate of child abuse and neglect in HPR III was consistently above the Commonwealth average across all 4 years. The rates of child abuse and neglect cases in HPRs I, IV, and V fluctuated around the Commonwealth average for the 4 years.

Exhibit 3-9
Rate of Reported Child Abuse/Neglect Cases

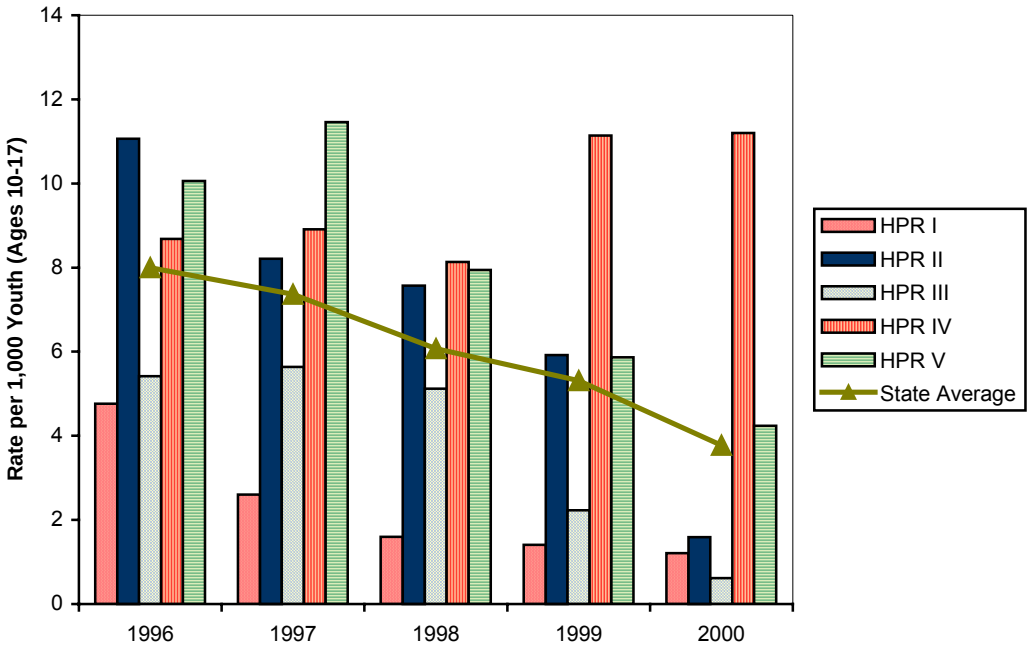


Runaway arrests—Runaway arrest rates per 1,000 youth are displayed in Exhibit 3-10.[1] The overall trend reveals that the rate of runway arrests is on the decline. There was a 53 percent decrease in the average rate of runaway arrests from 7.99 per 1,000 in 1996 to 3.77 per 1,000 in 2000. A similar trend is observed in the majority of HPRs. However, the rate of runaways in HPR IV actually increased across the 5 years; there is a 27 percent increase in the rate of runaway arrests from 1998 to 1999. HPR I consistently has the lowest rate of arrests, with 4.76 per 1,000 in 1996 and 1.21 per 1,000 in 1999.

The rates of runaway arrests in HPRs IV and V were consistently above the Commonwealth average across the 5 years. The rate in HPR II was above the Commonwealth average for 1996 to 1999, but fell significantly below the Commonwealth average in 2000. The runaway rates in HPRs I and III were significantly below the Commonwealth average across all 5 years.

[1] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of runaway arrests in HPR II in 2000.

Exhibit 3-10
Rate of Runaway Arrests



In summary, the trend for one of the social indicators (*child abuse/neglect cases*) that measures the risk factor Family Conflict is on the rise, while the other indicator, *runaway arrests*, is on the decline. Thus, it is impossible to identify a general trend for the risk factor Family Conflict. In HPR I, one indicator (runaway arrests) measuring Family Conflict was below the Commonwealth average, while the other indicator (child abuse/neglect) fluctuated around the Commonwealth average, illustrating that this risk factor may not be a concern in HPR I. In four of the five HPRs (II, III, IV, and V), only one of the two social indicators measuring Family Conflict was above the Commonwealth average. Therefore, the risk factor Family Conflict may be of concern in these four HPRs.

3.4 School Domain

The following section presents findings for social indicators within the school domain.

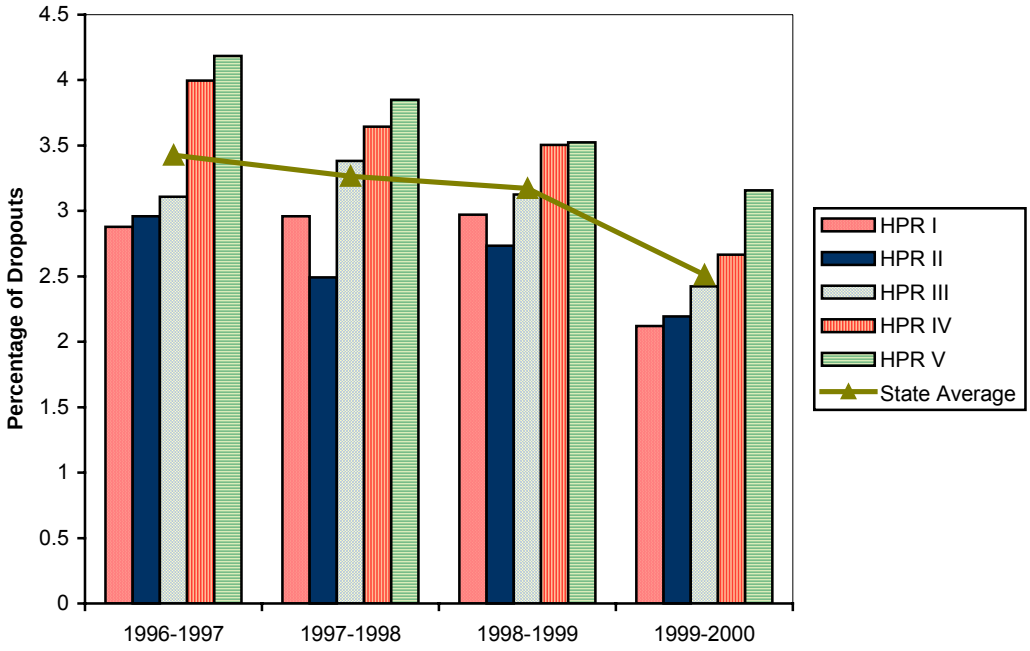
3.4.1 *Low Commitment to School*

Two social indicators were collected to measure the risk factor Low Commitment to School: *event dropouts* and *status dropouts*.

Event dropouts—Event dropouts (i.e., the percentage of students who drop out of school in a single year) are displayed in Exhibit 3-11. On average, less than 5 percent of students in grades 9–12 dropped out of school in the years 1996–2000. The overall trend indicates that event dropouts are on the decline. There was a 26 percent decrease in the average number of dropouts from 3.4 percent in 1996 to 2.5 percent in 1999. A similar pattern was observed in all five HPRS. HPR V had

the highest percentage of event dropouts, ranging from 4.10 in 1996 to 3.15 in 1999, while HPR II tended to have the lowest percentage, ranging from 2.95 in 1996 to 2.19 in 1999.

Exhibit 3-11
Percentage of Students (Grades 9–12) Who Drop Out of School in a Single Year

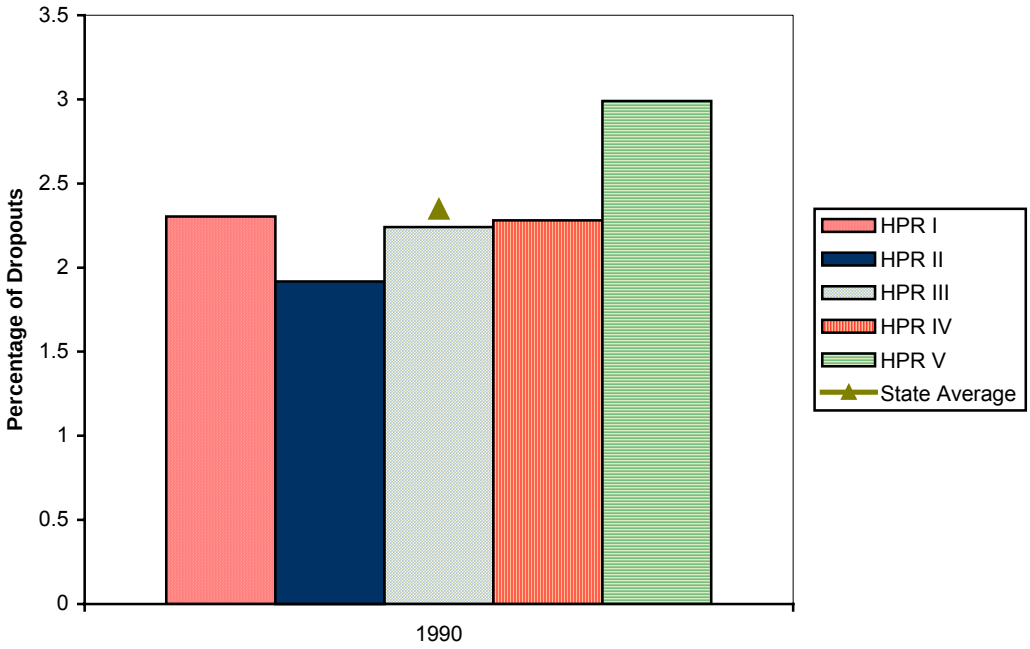


The percentages of events dropouts in HPRs I and II were consistently below the Commonwealth average. The percentages of event dropouts in HPRs IV and V were consistently above the Commonwealth average across all 4 years. Event dropouts in HPR III fluctuated around the Commonwealth average across all 4 years

***Status dropouts*—**The percentages of status dropouts (i.e., 16–19-year-old youth who are not enrolled in school and have not completed high school) are displayed in Exhibit 3-12. No trends in status dropouts can be observed because data were only available for the year 1990. The percentages of status dropouts did not differ substantially between HPRs. The Commonwealth average was 2.35 percent. The lowest percentage was observed in HPR II at 1.92 percent and the highest percentage was observed in HPR V at 2.35 percent.

HPR V was the only HPR above the Commonwealth average on the percentage of status dropouts, while the percentage of status dropouts in the other four HPRs fluctuated around the Commonwealth average.

Exhibit 3-12
Percentage of Adolescents (Ages 16–19) Who Have Not Completed High School



In summary, a trend could only be observed in one (*event dropouts*) of the two social indicators measuring the risk factor Low Commitment to School. Based on this social indicator, the general trend for the risk factor Low Commitment to School is on the decline. In regards to salient risk factors, HPR V was above the Commonwealth average on both social indicators measuring Low Commitment to School. Based on this finding, we may conclude that this risk factor is problematic in HPR V. In HPR IV, only one social indicator, *event dropouts*, was above the Commonwealth average, indicating that this risk factor may be of concern in HPR IV. HPRs I and II were below the Commonwealth average on both social indicators, suggesting that the risk factor Low Commitment to School in not a concern in these HPRs.

3.5 Community Domain

The following section presents findings for social indicators within the community domain.

3.5.1 *Availability of Drugs*

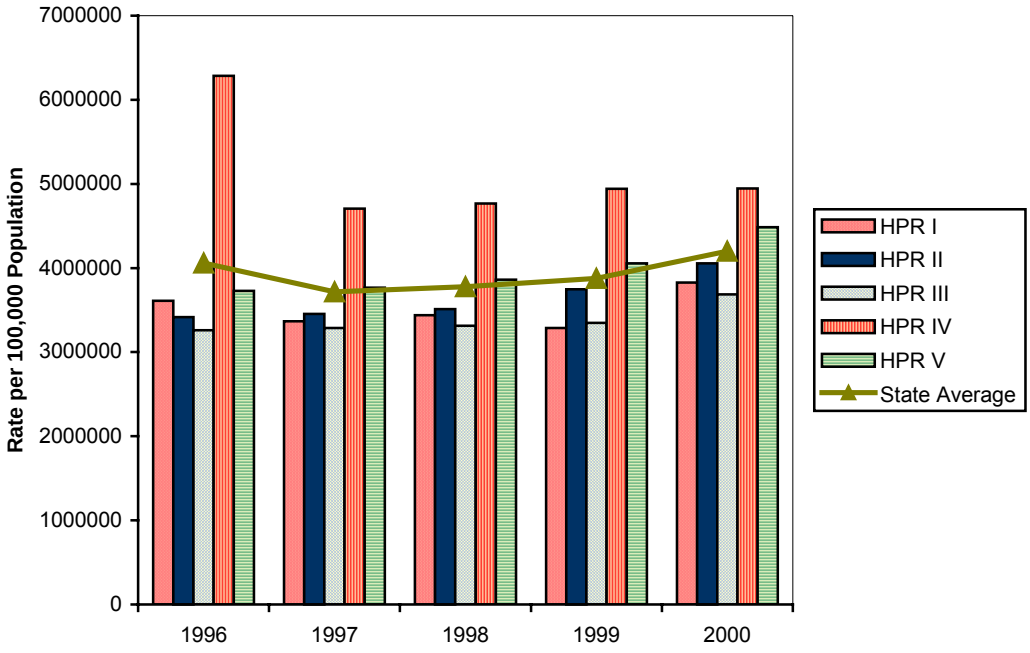
Three social indicators were used to measure the risk factor Availability of Drugs: *net sales of alcohol outlets*, *number of alcohol outlets*, and *number of tobacco outlets*.

Alcohol net sales—The rates of net alcohol sales per 100,000 population are displayed in Exhibit 3-13. The overall trend indicates that the rate of net alcohol sales is on the rise. The average rate of alcohol net sales increased 12 percent

from $3,715,109.58 per 100,000 in 1997 to $4,200,011.31 per 100,000 in 2000 (while it appears that there is a decrease in sales from 1996 to 1997, this observation is skewed due to an atypically high rate of 1996 alcohol sales in HPR IV). A similar trend is observed in all five HPRs (excluding 1996 for HPR IV). HPR IV consistently had the highest rate of alcohol net sales, ranging between $6,286,479.12 per 100,000and $4,945,695.78 per 100,000 over the 5 report years. The other four HPRs had relatively similar rates of alcohol net sales across the 5 years.

The rates of alcohol net sales in HPRs I, II, and III remained below the Commonwealth average across all 5 years. The rate of alcohol sales in HPR V fluctuated around the Commonwealth average. HPR IV was consistently above the Commonwealth average across the 5 years.

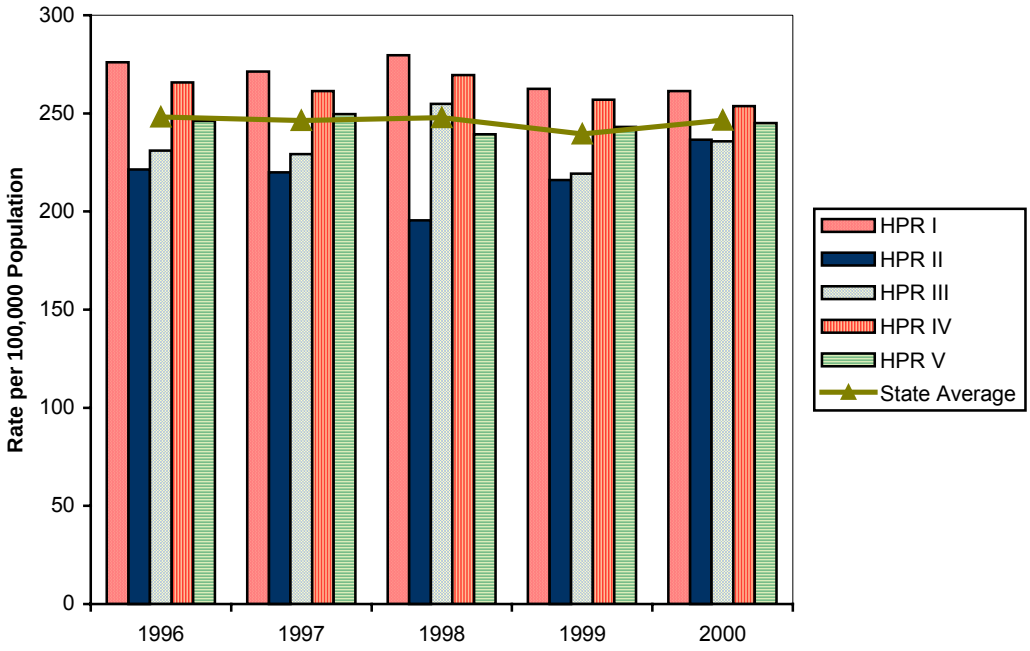
Exhibit 3-13
Rate of Net Alcohol Sales



Alcohol outlets—The rates of alcohol outlets per 100,000 population are displayed in Exhibit 3-14. The overall trend suggests that the rate of retail alcohol outlets is on the rise. The average rate of retail alcohol outlets increased 6 percent from 246.49 per 100,000 in 1996 to 261.39 per 100,000 in 2000. A similar pattern was observed in all five HPRs. HPR I had the highest rate of alcohol outlets, and HPR II had the lowest rate.

The rates of alcohol outlets per 100,000 population in HPRs II and III consistently fell below the Commonwealth average across all 5 years (excluding HPR III in 1998). The rate of alcohol outlets in HPR V tended to fluctuate around the Commonwealth average across all 5 years. The rates of alcohol outlets in HPRs I and IV consistently fell above the Commonwealth average across all 5 years.

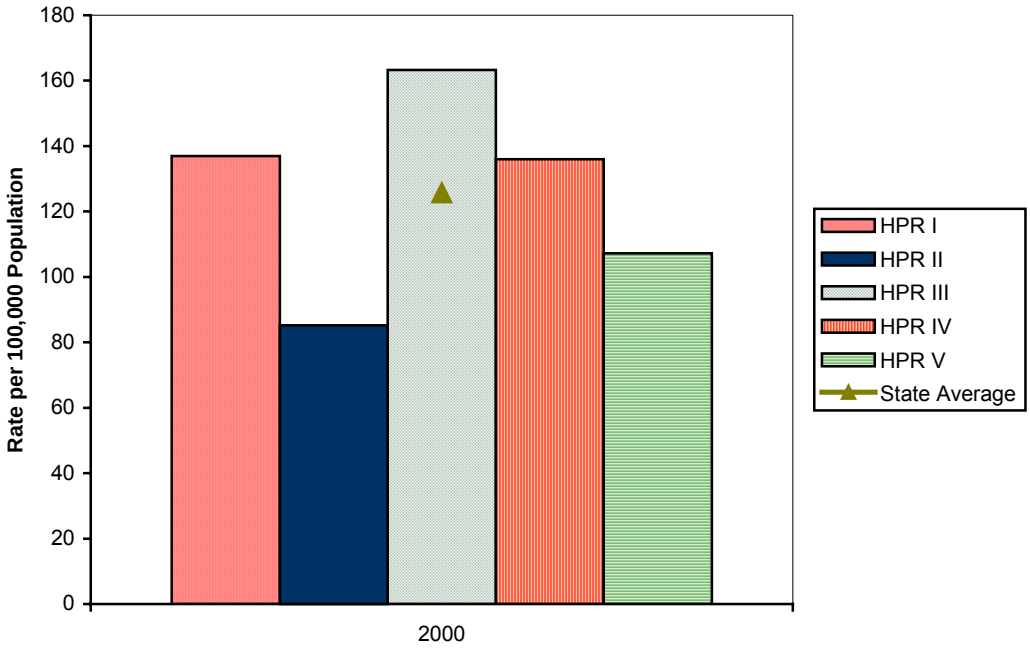
Exhibit 3-14
Rate of Alcohol Outlets



Tobacco outlets—The rates of tobacco outlets per 100,000 population are displayed in Exhibit 3-15. Trend data are not available on the rate of tobacco outlets. The estimated average rate across HPRs in Virginia was substantially smaller than the rate of alcohol outlets. While this finding may at first appear surprising, it is probably due to the large number of alcohol outlets that may not sell tobacco products (e.g., Alcoholic Beverage Control stores, wholesalers, distillers, breweries, wineries, restaurants/bars, etc.). It is estimated that the rate of retail tobacco outlets in the Commonwealth of Virginia is 125.72 per 100,000 in 2000. HPR III had the highest rate at 163.26 per 100,000 and HPR II had the lowest rate at 85.17 per 100,000.

The rates of tobacco outlets in HPRs I, III, and IV were above the Commonwealth average. In contrast, the rates of tobacco outlets in HPRs II and V were below the Commonwealth average.

Exhibit 3-15
Rate of Tobacco Outlets



Trend data were only available for two of the three social indicators measuring the risk factor Availability of Drugs. The general trend of these two social indicators demonstrates that the rates of these two social indicators are on the rise. Thus, we may conclude that the overall trend for the risk factor Availability of Drugs is on the rise.

HPR II was consistently below the Commonwealth average on all three social indicators measuring the risk factor Availability of Drugs, illustrating that this risk factor is not a concern to HPR II. In contrast, HPR IV is consistently above the Commonwealth average on all three social indicators, suggesting that the risk factor Availability of Drugs is a salient risk factor. HPRs I and III were above the Commonwealth average on one of the three social indicators (*tobacco outlets*). These findings lead to the conclusion that the risk factor Availability of Drugs may be of concern to HPRs I and III.

3.5.2 *Transitions and Mobility*

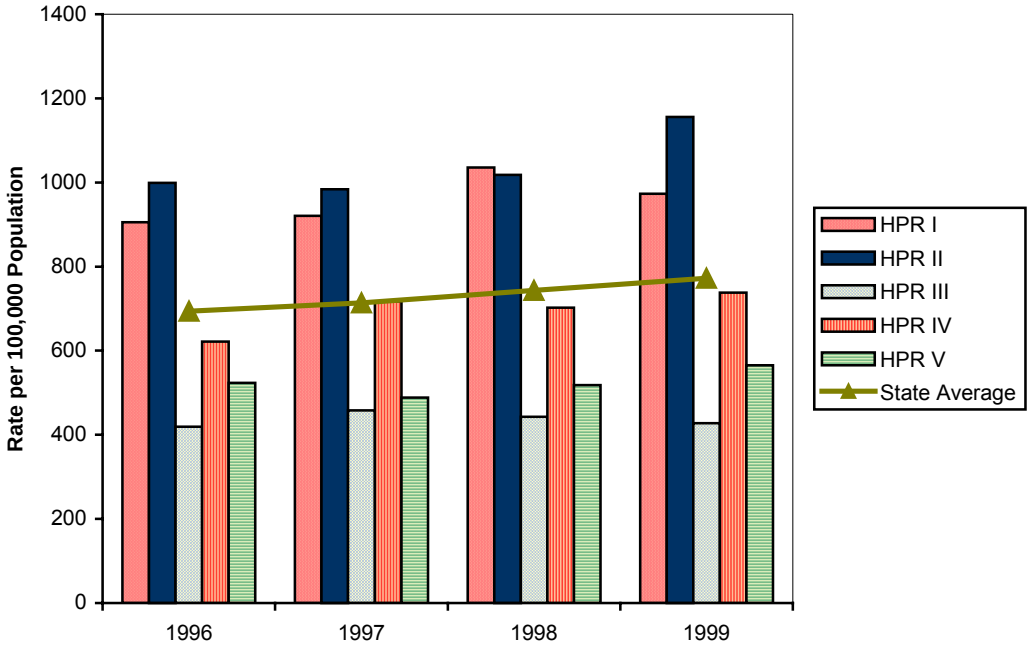
Three social indicators were collected for the risk factor Transitions and Mobility: *new home construction*, *households in rental properties*, and *net migration*. However, a rate for the social indicator net migration could not be calculated at the HPR level. Net migration data at the local level were only reported as a rate from the U.S. Census Bureau. The actual numbers were not available. Therefore, net migration is excluded from analysis at the HPR level.

New home construction—The rates of new building permits per 100,000 population are displayed in Exhibit 3-16. There was a slight increase (10 percent) in the average rate of new building permits in the Commonwealth of Virginia,

ranging from 693.78 per 100,000 in 1996 to 771.99 per 100,000 in 1999. The highest rate of new building permits was observed in HPRs I and II, ranging from 905.46 per 100,000 and 998.93 per 100,000 (respectively) in 1996 and 973.77 per 100,000 and 1,155.77 per 100,000 (respectively) in 1999. HPR III and V had the lowest rate of new building permits; all rates are below 570 per 100,000 population.

HPRs I and II were consistently above the Commonwealth average across the 4 years, while HPR IV fluctuates around the Commonwealth average. HPRs III and V were consistently below the Commonwealth average across all 4 report years.

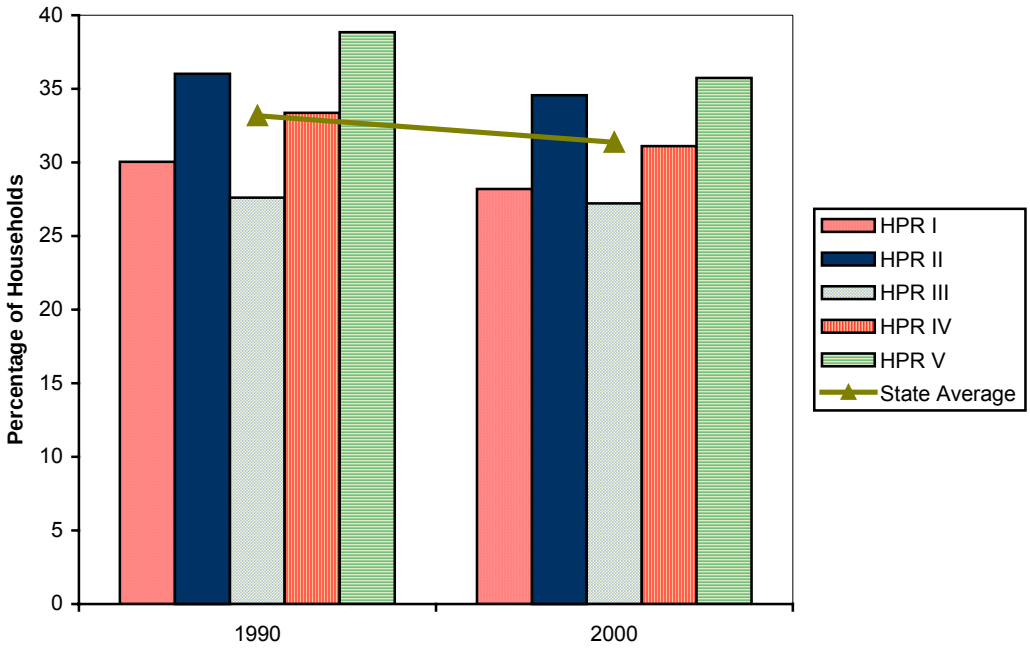
Exhibit 3-16
Rate of All New Building Permits Issued for Single and Multifamily Dwellings



Households in rental properties—The percentages of all households living in rental properties are displayed in Exhibit 3-17. The average percentage of all households living in rental property was 33 percent. This number is comparable to the national average of 34 percent (U.S. Census). This percentage remained stable throughout the 1990s. The percentage of rental households was relatively similar in all HPRs.

The percentages of rental households in HPRs II and V were slightly above the Commonwealth average during this decade. The percentages of rental households in HPRs I and III remained below the Commonwealth average during this decade, while this percentage in HPR IV fluctuated around the Commonwealth average.

Exhibit 3-17
Percentage of All Households Living in Rental Properties



In summary, there is no general trend for the risk factor Transitions and Mobility; the trend for *new home construction* is on the rise, while the trend for *rental housing* is stable. Overall, HPR II was consistently above the Commonwealth average on the two social indicators that measure Transitions and Mobility, suggesting that this risk factor is problematic in HPR II. In contrast, HPR III was consistently below the Commonwealth average on the two social indicators that measure Transitions and Mobility, demonstrating that this risk factor is not a concern for HPR III. HPRs I and V were above the Commonwealth average on only one of the two social indicators measuring Transitions and Mobility, suggesting that this risk factor may be of concern to these two HPRs. HPR IV fluctuated around the Commonwealth average on both social indicators measuring Transitions and Mobility.

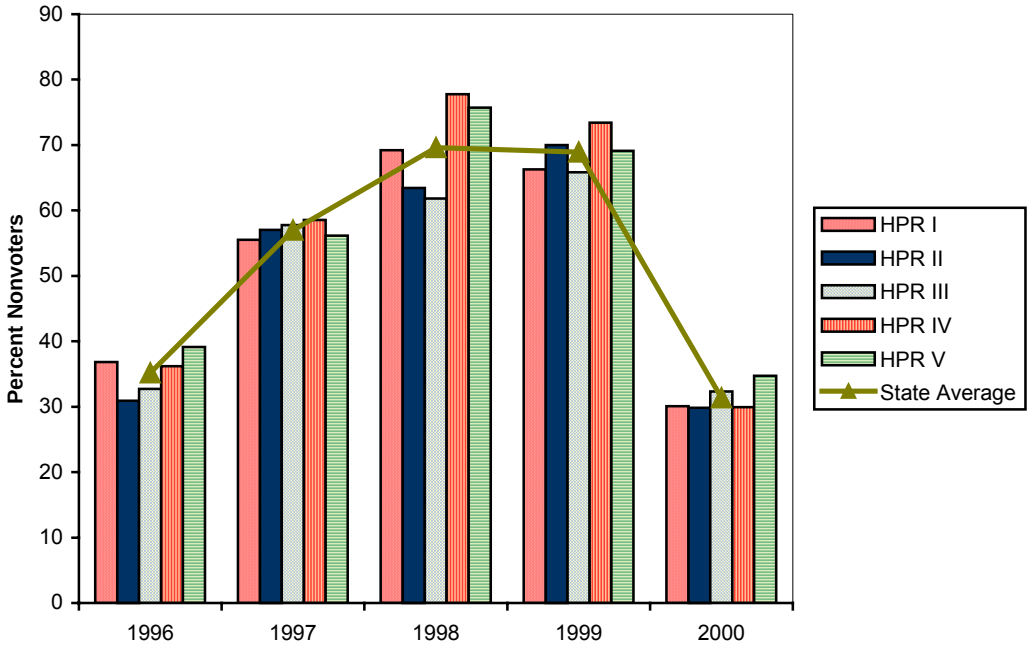
3.5.3 *Low Neighborhood Attachment*

Two social indicators measured the risk factor Low Neighborhood Attachment: *population not voting in general elections* and *prisoners in State correctional systems.*

Population not voting in general elections—The percentages of registered voters who **did not vote** in general elections are displayed in Exhibit 3-18. The overall trend in percentage of the population not voting indicates a sharp increase with a subsequent share decrease. There was a significant increase (49 percent) in the percentage of registered voters who did not vote from 1996 to 1998 (35 percent and 70 percent, respectively), followed by a 55 percent decrease from 1999 to 2000 (69 percent and 32 percent, respectively). Most likely the reason for the low percentage of nonvoters in 1996 and 2000 is the result of higher voter turnout for presidential elections that occurred during those years.

A similar trend is observed in all five HPRS. The percentage of nonvoters was relatively similar in all five HPRs.

Exhibit 3-18
Percentage of Registered Voters Who Did Not Vote

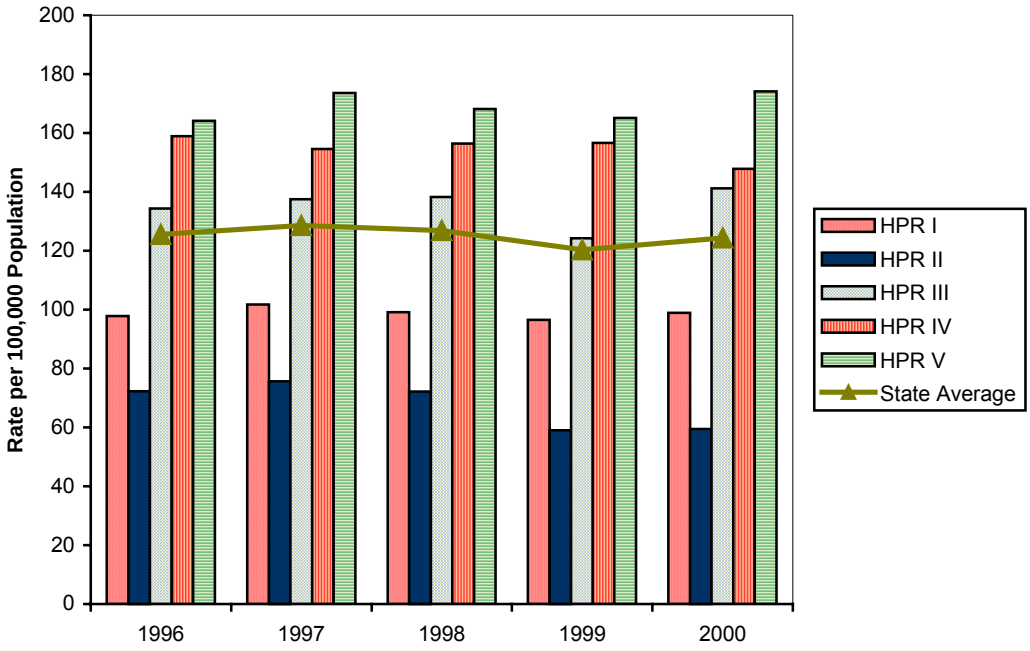


None of the HPRs were consistently above or below the Commonwealth average across all 5 years on this social indicator.

Prisoners in State correctional system—The rates per 100,000 population of new admissions to State prisons from committing courts in each of Virginia's HPRs are displayed in Exhibit 3-19. The average rate of prisoners admitted to State prisons by committing courts remained relatively stable from 1996 to 2000. This trend was observed in all HPRs. The average rate of prison admissions was 125.50 per 100,000 in 1996 and 124.31 per 100,000 in 2000. HPR V had the highest rate of prison admissions from courts in that region, ranging from 164.07 per 100,000 in 1996 to 174.08 per 100,000 in 2000. HPR II had the lowest rate, ranging from 72.33 per 100,000 in 1996 to 59.50 per 100,000 in 2000.

The rates of admission to State prisons from courts in HPRs III, IV, and V were above the Commonwealth average for all 5 years. In contrast, the prison admission rates in HPRs I and II were below the Commonwealth average across all 5 years.

Exhibit 3-19
Rate of New Admissions to State Prisons by Committing Court



In summary, no general trend was observed for the risk factor Low Neighborhood Attachment; one of the social indicators, *percent nonvoters,* exhibited a u-shaped trend, while the rate of prison admissions remained stable. HPRs III, IV, and V were above the Commonwealth average for only one social indicator measuring the risk factor Low Neighborhood Attachment. Therefore, this risk factor may be of concern in these HPRs.

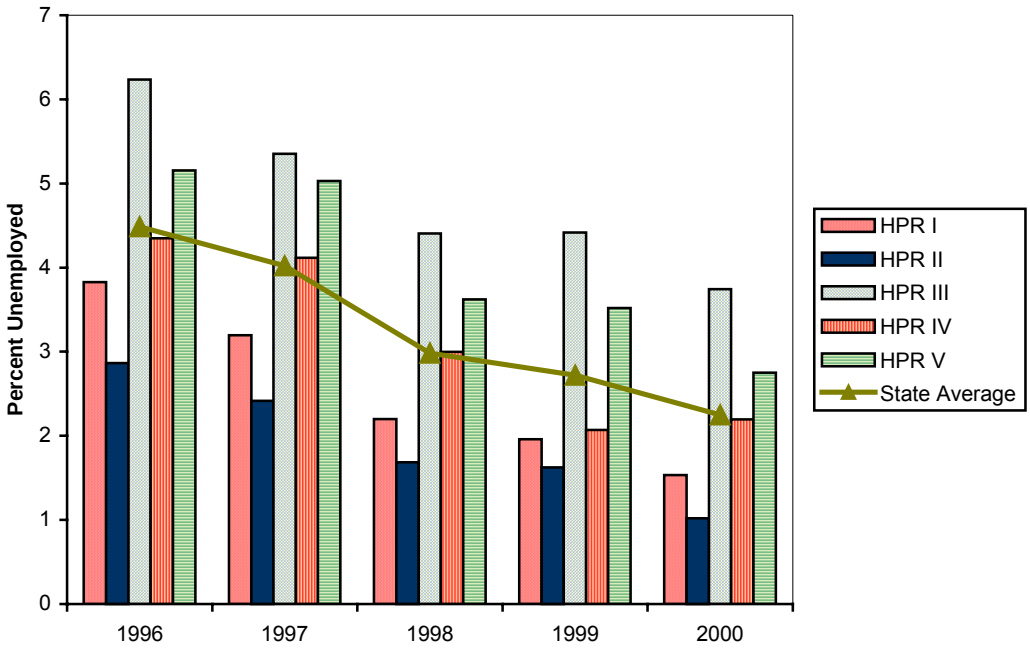
3.5.4 *Extreme Economic and Social Deprivation*

Six social indicators measured the risk factor Extreme Economic and Social Deprivation: *unemployment*, *Free and Reduced Lunch Program participants*, *TANF (Temporary Assistance for Needy Families) program participants*, *Food Stamp recipients*, *adults without a high school diploma*, and *single-parent family households.*

Unemployment—Unemployment rates in Virginia are displayed in Exhibit 3-20. The overall trend in the unemployment rate indicates a decline. There was a 50 percent decrease in the unemployment rate from 4.48 percent in 1996 to 2.24 percent in 2000. In 1998, 1999, and 2000, the unemployment rate in Virginia was significantly below the national rate (4.4%, 4.1%, and 3.8%, respectively [U.S. Bureau of Labor Statistics]). A similar pattern was observed in all five HPRs. The unemployment rate was highest in HPR III, ranging from 6.23 percent in 1996 to 3.74 percent in 2000. The lowest unemployment rate was observed in HPR II, ranging from 2.86 percent in 1996 to 1.02 percent in 2000.

The unemployment rates in HPRs III and V were consistently above the Commonwealth average for all 5 years, while the unemployment rates in HPRs I and II were substantially below the Commonwealth average across all 5 years.

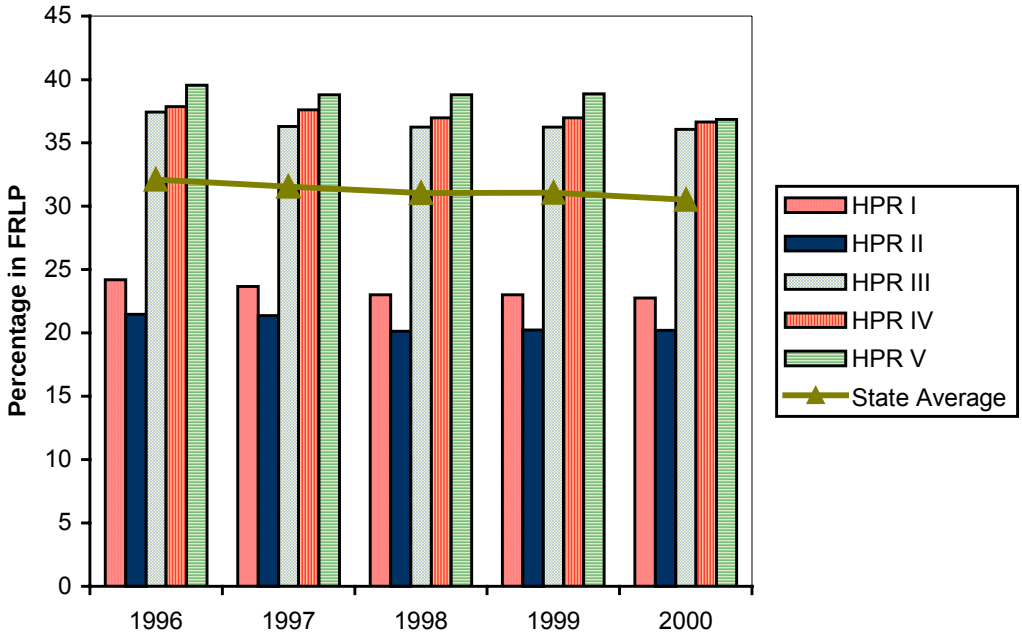
Exhibit 3-20
Percentage of Labor Force Not Employed



Free and Reduced Lunch participants—The percentages of students in Virginia participating in the Federal Free and Reduced Lunch Program are presented in Exhibit 3-21. Almost one-third of students in grades K-12 in the Commonwealth were found eligible to participate in the Federal Free and Reduced Lunch Program. The average percentage of participants in the Free and Reduced Lunch (FRLP) program remained stable across all 5 years, ranging from 31.10 percent in 1996 to 32.51 percent in 2000. A similar trend was observed in all five HPRs. The percentages of FRLP participants in HPRs III, IV, and V, fluctuated around the 38 percent range. HPRs I and II had the lowest percentages of FRLP participants, which fluctuated around 23 percent across all 5 years.

In three HPRs, III, IV and V, the rates of FRLP participants remained above the Commonwealth average across all 5 years. The rates of FRLP participants in HPRs I and II remained below the Commonwealth average across all 5 years.

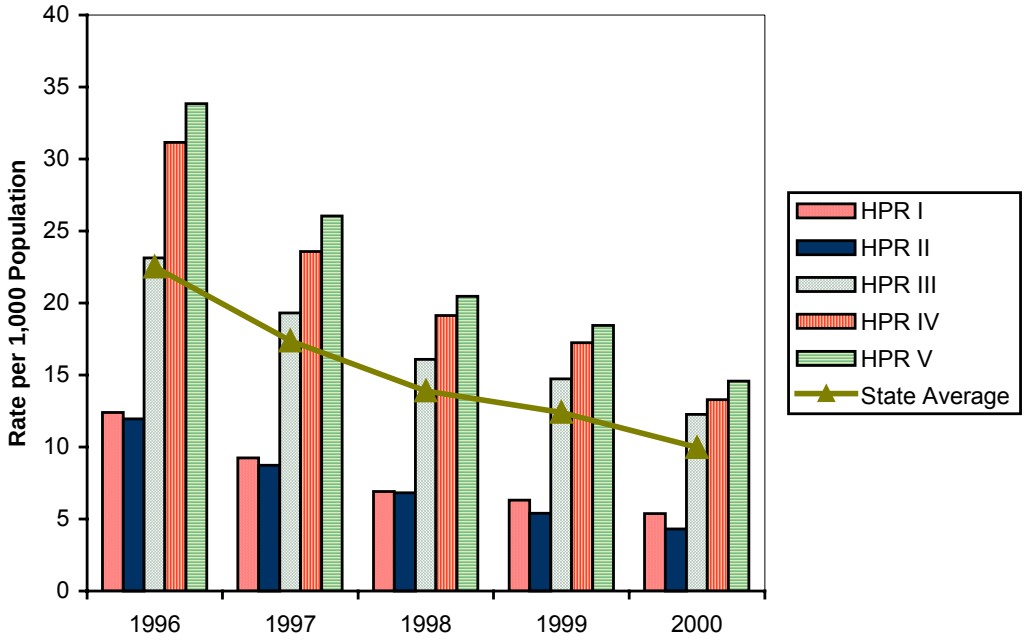
Exhibit 3-21
Percentage of Students (Grades K–12) Participating in the Federal Free and Reduced Lunch Program



TANF participants—The rates of TANF participants per 1,000 population are displayed in Exhibit 3-22. The overall trend indicates a decline in the rate of TANF participants. The average rate of persons receiving TANF funds significantly declined 56 percent from 22.51 per 1,000 in 1996 to 9.97 per 1,000 in 2000. This significant decrease is most likely explained by the implementation of welfare reform in 1996. A similar trend was observed in all five HPRs. The TANF rate in Virginia in 1999 (12.42 per 1000) was substantially below the national rate of 23.64 per 1,000. HPR V had the highest rate of TANF participants, ranging from 33.86 per 1,000 in 1996 to 14.58 per 1,000 in 2000. HPR II had the lowest rate, ranging from 11.96 per 1,000 in 1996 to 4.30 per 1,000 in 2000.

The rates of TANF participants in HPRs III, IV and V were above the Commonwealth average across all 5 years. The rates of TANF participants were below the Commonwealth average in HPRs I and II.

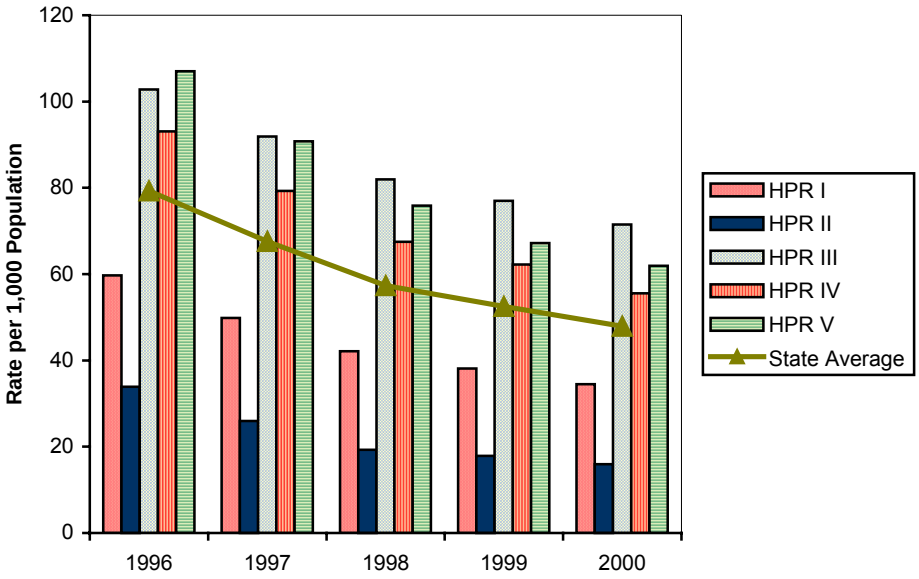
Exhibit 3-22
Rate of All Persons Participating in the Federal TANF Program



Food Stamp recipients—Food Stamp recipient rates per 1,000 population are presented in Exhibit 3-23. A trend similar to TANF rates is observed in the rate of Food Stamp recipients. The rate of persons receiving Food Stamps declined 40 percent from 79.29 per 1,000 in 1996 to 47.88 per 1,000 in 2000. A similar pattern was observed in all five HPRs. The highest rate of Food Stamp recipients was observed in HPR V in 1996 at 106.99 per 1,000. However, by 1998, HPR III had the highest rate at 80.94 per 1,000. The highest rate was observed in HPR III from 1998 to 2000. The lowest rate was observed in HPR II, ranging from 33.91 per 1,000 in 1996 to 15.91 per 1,000 in 2000.

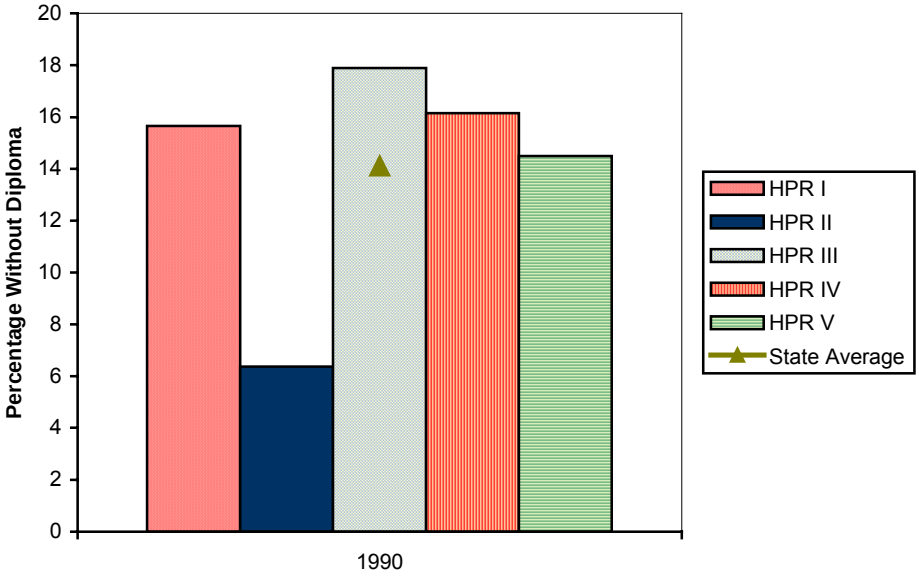
The rate of Food Stamp recipients in HPRs III, IV, and V were above the Commonwealth average consistently for all 5 years. The rate of Food Stamp recipients in HPRs I and II consistently fell below the Commonwealth average across all 5 years.

Exhibit 3-23
Rate of Average Number of Food Stamp Recipients



Adults without a high school diploma—Only one year of data was available for the social indicator *adults without a high school diploma*. Thus, no trends in this social indicator could be observed. The percentages of adults over 25 who have not completed high school are displayed in Exhibit 3-24. Approximately 15 percent of all adults 25 or older in the Commonwealth of Virginia do not have a high school diploma. The percentages of adults without a high school diploma in four of the five HPRs fell above this number. Only HPR II was significantly below the Commonwealth average.

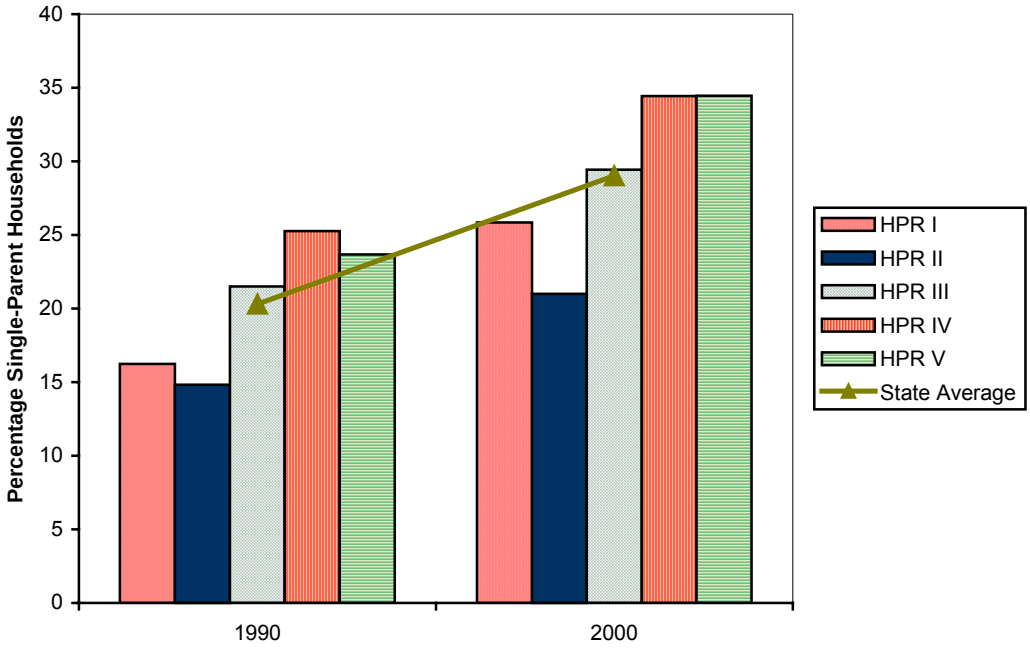
Exhibit 3-24
Percent of Population, 25 or Older, Who Did Not Receive a High School Diploma



Single-parent family households—The percentages of single-parent households are presented in Exhibit 3-25. The overall trend indicates that the rate of single-parent households is on the rise. Single-parent households increased 31 percent from 20.30 percent in 1990 to 29.02 percent in 2000. The Commonwealth average was above the national average (24%) in 2000. A similar pattern was observed in all five HPRS. The lowest percent of single-parent families was observed in HPR II, ranging from 14.83 percent in 1990 to 20.90 percent in 2000. The highest percent was observed in HPR IV, ranging from 25.25 percent in 1990 to 34.42 percent in 2000. The findings suggest that over a third of all family households are single-parent households in HPR IV and V.

The percentages of single-parent families were consistently above the Commonwealth average in HPRs IV and V. The percentage of single-parent families consistently fell below the Commonwealth average in HPRs I and II.

Exhibit 3-25
Percentage of Single-Parent Family Households



In summary, the trends of three of the six social indicators that measure Extreme Economic and Social Deprivation indicate that these rates are on the decline *(Unemployment*, *TANF*, and *Food Stamp recipients*), the rate of single-parent households is on the rise, and the rate of Free and Reduced Lunch participants remained stable (no trend data were available for the social indicator *adults without a high school diploma*). Based on these findings, it is difficult to draw any conclusions regarding the overall trend for the risk factor Extreme Economic and Social Deprivation.

HPRs IV and V were above the Commonwealth average on all six indicators measuring the risk factor Extreme Economic and Social Deprivation. In addition, HPR III was above the Commonwealth average on five of the six social indicators

measuring this risk factor, illustrating that this risk factor is problematic in HPRs III, IV and V. HPRs I and II were below the Commonwealth average on at least five of the six social indicators measuring the risk factor Extreme Economic and Social Deprivation. These findings suggest that the risk factor economic and social deprivation is not a concern in HPRs I and II.

3.6 Outcomes: Substance Use

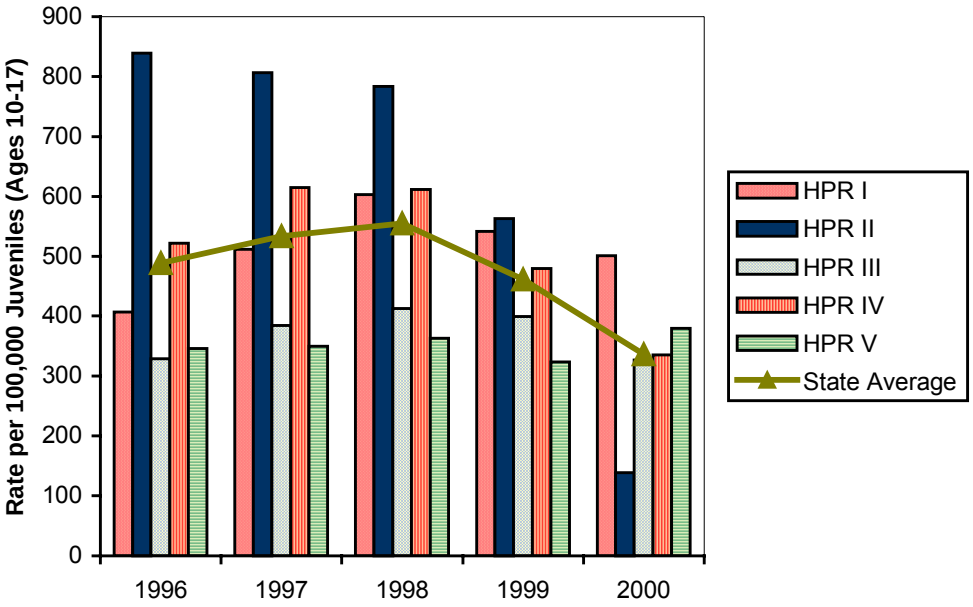
There are eight social indicators that measured the problem behavior Substance Use: *juvenile alcohol-related arrests*, *juvenile drug-related arrests*, *adult alcohol-related arrests*, *adult drug-related arrests*, *adult DUI arrests*, *alcohol-related traffic fatalities*, *drug use during pregnancy*, (i.e., pregnant women receiving State-supported AOD treatment), and *drug use during pregnancy* (based on mothers' self-reports on birth records).

Juvenile alcohol-related arrests—The juvenile alcohol-related arrest rates per 100,000 population are displayed in Exhibit 3-26.[2] The overall trend indicates a rise in juvenile alcohol-related arrests from 1996 to 1998, with a subsequent sharp decline from 1998 to 2000. There was a 19 percent increase in the average rate of juvenile alcohol-related arrests from 448.51 per 100,000 in 1996 to 554.91 per 100,000 in 1998, with a sharp 39 percent decrease to 336.41 in 2000. A similar pattern was observed in four of the five HPRs—I, II, III, and IV. HPR V is the only HPR in which the trend of *juvenile alcohol-related arrests* appears stable. HPR II, which had the highest rate of arrests in 1996–1999 (839.05 per 100,000 and 562.71 per 100,000, respectively) significantly dropped to the lowest rate in 2000 (138.62 per 100,000). HPR I had the highest rate in 2000 at 500.81 per 100,000.

The rates of juvenile alcohol-related arrests in HPRs II and IV were above the Commonwealth average for 4 of the 5 report years. The rates of juvenile alcohol-related arrests were below the Commonwealth average across all 5 years in HPRs III and V.

[2] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of juvenile alcohol-related arrests in HPR II in 2000.

Exhibit 3-26
Rate of Juvenile Alcohol-Related Arrests
(DUI, liquor law violations, public drunkenness)

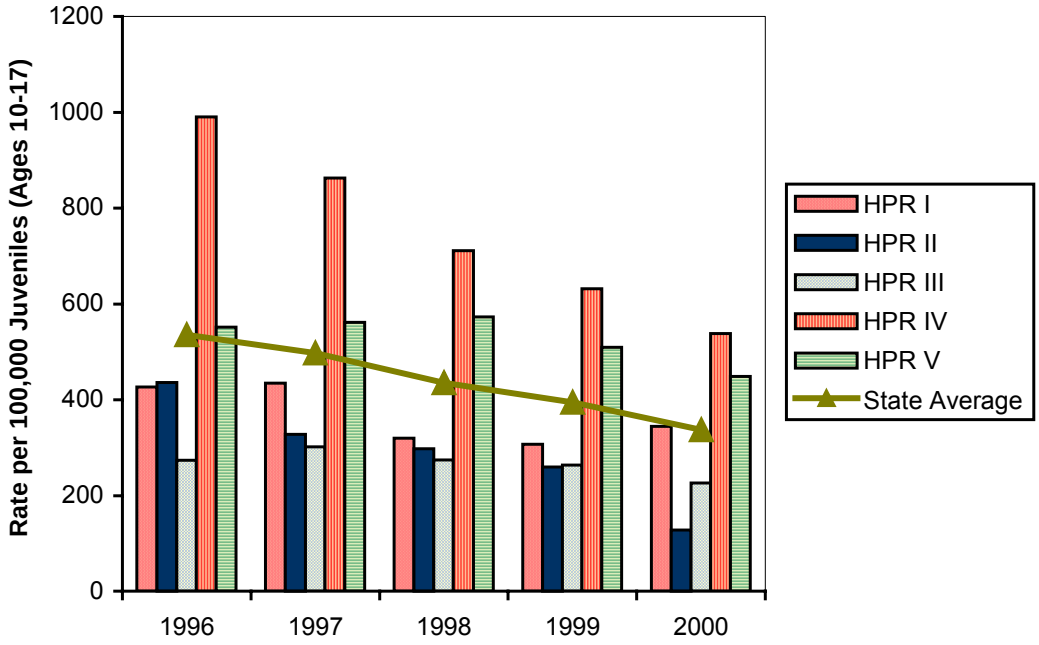


Juvenile drug-related arrests—The rates of juvenile drug-related arrests per 100,000 are presented in Exhibit 3-27.[3] The overall trend indicates that drug-related arrests are on the decline. There was a 37 percent decline in the rate of juvenile drug-related arrests from 563.63 per 100,000 in 1996 to 337.08 per 100,000 in 2000. A similar pattern was observed in four of the five HPRs (HPRs II, III, IV, and V). In HPR I, a decline in the rate of juvenile drug-related arrests was observed from 1996–1999, with a subsequent increase in 2000. HPR IV has the highest rate of drug-related arrests across the 5 years, ranging from 990.46 per 100,000 in 1996 to 538.14 per 100,000 in 2000. HPR II exhibited the greatest amount of decrease in the rate of arrest (70%) from 1996 (435.87 per 100,000) to 2000 (128.23 per 100,000).

HPRs II and III were consistently below the Commonwealth average from 1996 to 2000. HPRs IV and V are consistently above the Commonwealth average for all 5 years.

[3] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of juvenile drug-related arrests in HPR II in 2000.

Exhibit 3-27
Rate of Juvenile Drug-Related Arrests
(possession, sale, use, manufacturing)

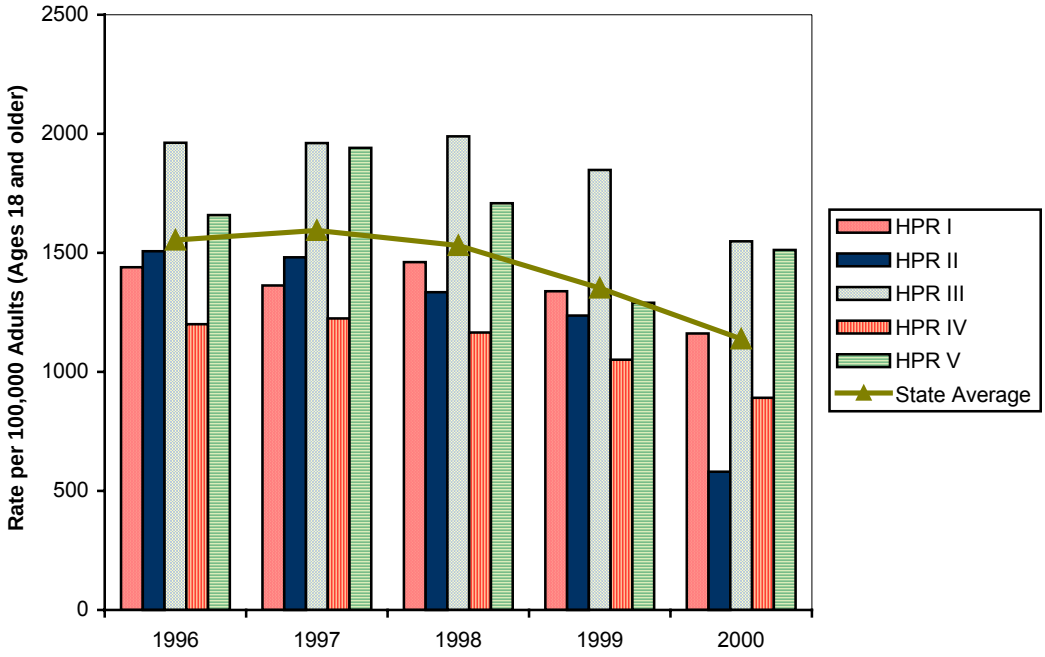


Adult alcohol-related arrests—The rates of adult alcohol related arrests per 100,000 adults are presented in Exhibit 3-28.[4] Similar to juvenile alcohol-related arrests, there was a general trend for the rate of adult alcohol-related arrests to decline from 1996 to 2000. The arrests rate declined 26 percent from 1553.11 per 100,000 in 1996 to 1549.04 per 100,000 in 2000. A similar trend was observed in all five HPRs. HPR III had the highest rate of adult alcohol-related arrests, ranging from 1961.84 per 100,000 1996 to 1549.04 per 100,000 in 2000. HPR IV had the lowest rate from 1996 (1199.60 per 100,000) to 1999 (1050.42 per 100,000). However, in 2000, HPR II had the lowest rate (580.18 per 100,000).

The rates of adult alcohol-related arrests in HPRs III and V were consistently above the Commonwealth average across the 5 years. The rates of adult alcohol-related arrests in HPRs I, II, and IV were consistently below the Commonwealth average.

[4] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of adult alcohol-related arrests in HPR II in 2000.

Exhibit 3-28
Rate of Adult Alcohol-Related Arrests
(DUI, liquor law violations, public drunkenness)

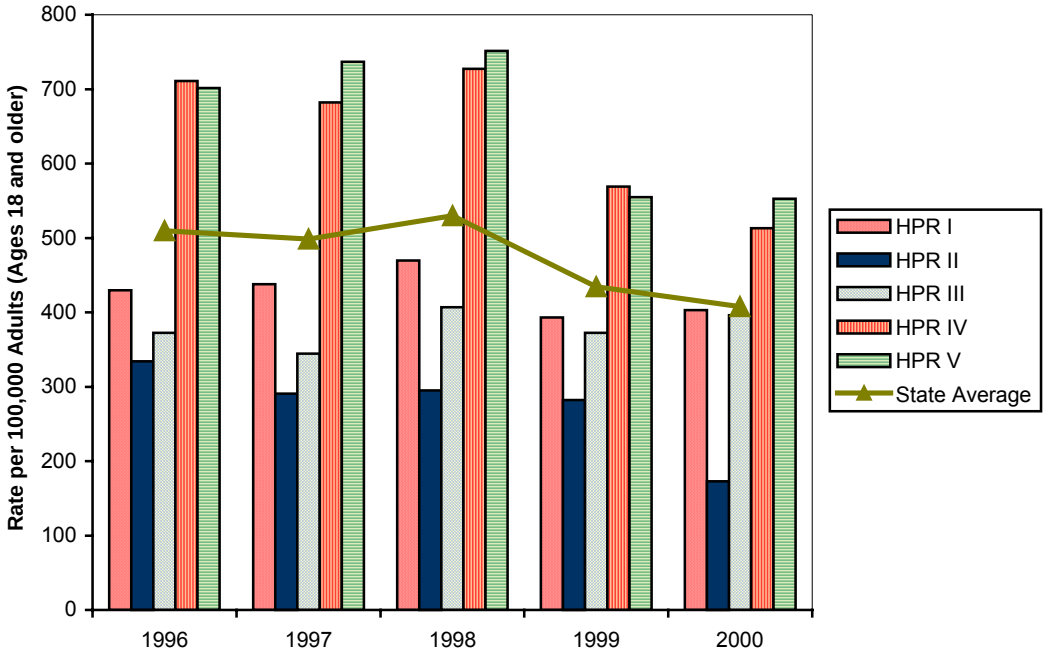


Adult drug-related arrests—Adult drug-related arrest rates per 100,000 adults are presented in Exhibit 3-29.[5] Similar to juvenile drug-related arrests, there was a 20 percent decline in the average rate of adult drug-related arrests from 509.69 per 100,000 in 1996 to 407.62 per 100,000 in 2000. A similar pattern was observed in HPRs II, IV, and V. In HPRs I and III, the rates of adult drug-related arrests remained relatively stable across the 5 report years. HPR V had the highest rate of adult drug-related arrests, ranging from 701.47 per 100,000 in 1996 to 552.72 per 100,000 in 2000. HPR II had the lowest rate, ranging from 334.17 per 100,000 in 1996 to 172.98 per 100,000 in 2000.

The rate of adult drug-related arrests in HPRs IV and V was consistently above the Commonwealth average across all 5 years. In contrast, the rate of adult drug-related arrests in HPRs I, II, and III were consistently below the Commonwealth average.

[5] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of adult drug-related arrests in HPR II in 2000.

Exhibit 3-29
Rate of Adult Drug-Related Arrests
(possession, sale, use, manufacturing)

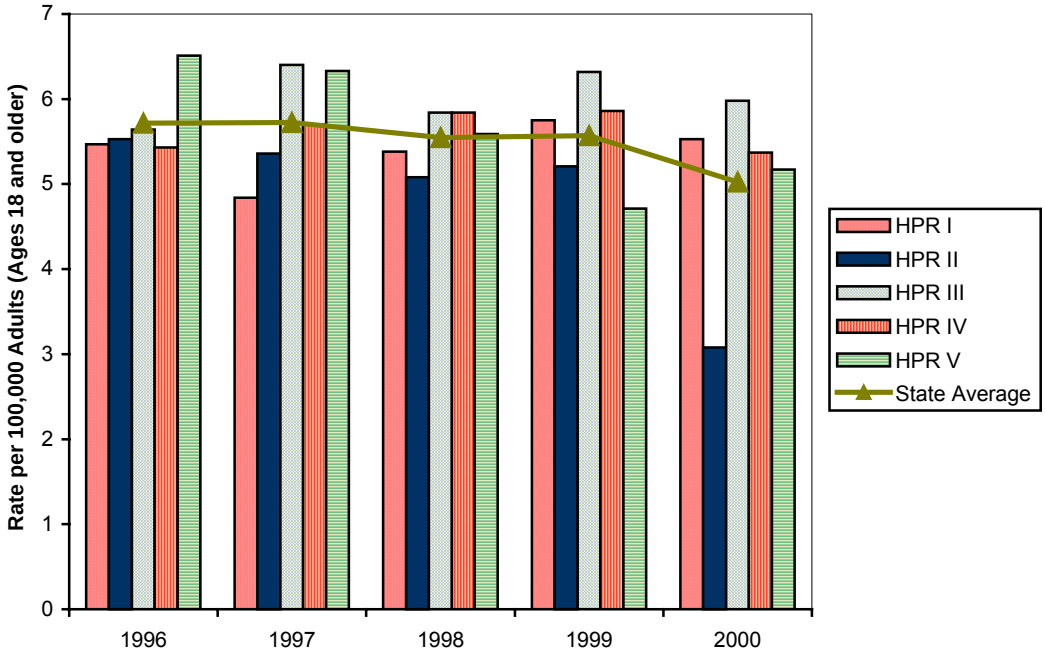


Adult DUI arrests—The rates of adult DUIs per 100,000 adults is presented in Exhibit 3-30.[6] The average rate of adult DUI arrests per 100,000 adults remained relatively stable across the 5 years from 5.71 per 100,000 in 1996 to 5.42 per 100,000 in 2000. A similar trend was observed in all five HPRs. The rates of adult DUIs were similar in all five HPRs. However, it appears that there is trend for a decline in the number of DUI arrests in HPR V.

The rates of adult DUIs in HPR III and V were above the Commonwealth average in 4 of the 5 years of reporting. In HPR I the adult DUI rate was below the Commonwealth average for the years 1996–1998 and then rose above the Commonwealth average for the years 1999 and 2000. The rate of adult DUI arrests in HPR IV was below the Commonwealth average in 1996, equal to the average in 1997, and then rose above the Commonwealth average for the years 19998–2000. In contrast, the rate of adult DUIs in HPR II was below the Commonwealth average across all 5 years.

[6] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of adult DUI arrests in HPR II in 2000.

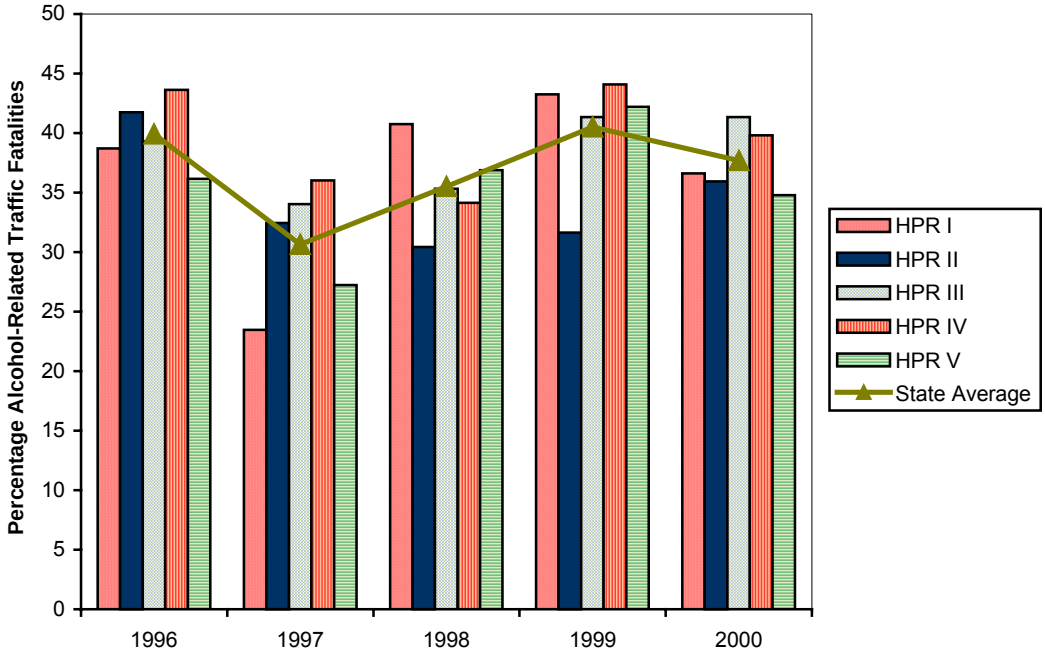
Exhibit 3-30
Rate of Adult DUI



Alcohol-related traffic fatalities—The percentages of all traffic fatalities that are alcohol-related are presented in Exhibit 3-31. The overall trend for alcohol-related traffic fatalities indicates a decrease in these fatalities from 1996 to 1997, with a subsequent increase in 1998 and 1999, followed by another decrease in 2000. The percent of alcohol-traffic fatalities decreased 14 percent from 1996 (39.90%) to 1997 (34.03%) followed by a 16 percent increase to 40.50 percent in 1999 and then a 7 percent decrease to 37.70 percent in 2000. A similar trend was observed in HPRs I, III, IV, and V. Alcohol-related traffic fatalities in HPR II decreased from 1996 to 1998 with subsequent increases in 1999 and 2000. The average percentage of alcohol-related traffic fatalities (41%) in 1999 was above national figures (34%). A similar trend was observed in all five HPRs.

No real trend emerged regarding HPRs that were above the Commonwealth average. The percentage of alcohol-related traffic fatalities in HPR IV was above the Commonwealth average for 4 of the 5 report years, while HPRs I and III were above the Commonwealth average on this social indicator for only 2 of the 5 years. The percent of alcohol-related traffic fatalities was below the Commonwealth average in HPR II for the last 3 report years.

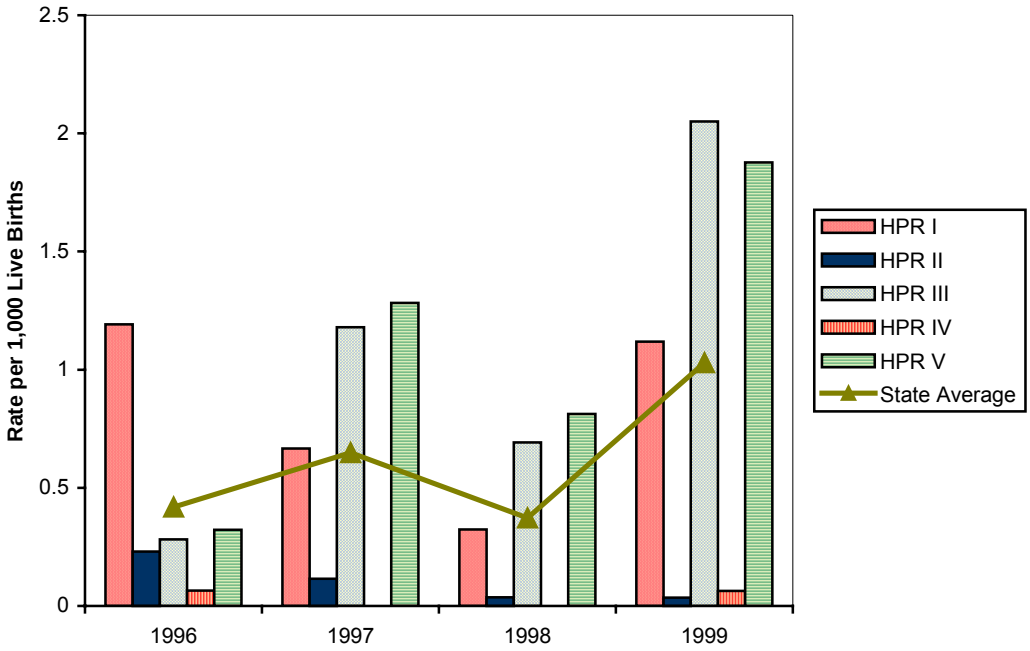
Exhibit 3-31
Percentage of Traffic Fatalities That Are Alcohol-Related



Drug use during pregnancy—pregnant women receiving State-supported AOD treatment—The rates per 1,000 live births of pregnant women receiving State-supported AOD treatment is displayed in Exhibit 3-32. There was a 60 percent increase in the rate of pregnant women receiving State-supported AOD treatment from .41 per 1,000 in 1996 to 1.03 per 1,000 in 1999. There was a large amount of fluctuation among HPRs from year to year, thus no clear pattern emerged regarding HPRs with the highest or lowest rate of pregnant women receiving treatment.

The rates of pregnant women receiving AOD treatment were above the Commonwealth average for HPRs I, III, and V for 3 of the 4 years. The rates of pregnant women receiving AOD State-supported treatment were below the Commonwealth average across all 4 years in HPRs II and IV.

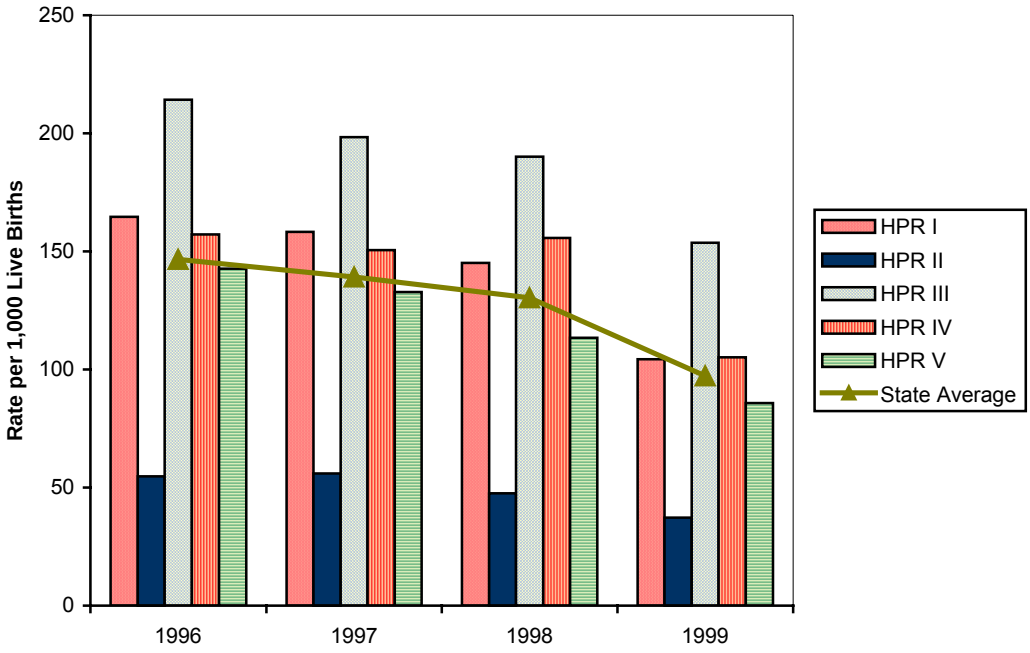
Exhibit 3-32
Rate of Pregnant Women Receiving State-Supported AOD Treatment



Drug use during pregnancy—birth records—The rates per 1,000 live births of new mothers who reported on birth records use of ATODs during their pregnancy is presented in Exhibit 3-33. A very different picture of substance use during pregnancy is gleaned from reports on birth certificates. The overall trend indicates that drug use during pregnancy is on the decline. Based on birth certificate information, there was a 33 percent decline in the average rate of pregnant women using substances, from 146.73 per 1,000 in 1996 to 97.20 per 1,000 in 1999. The highest rate of pregnant women who reported ATOD use was observed in HPR III, ranging from 214.22 per 1,000 in 1996 to 153.72 per 1,000 in 1999. The lowest rate was observed in HPR II, ranging from 54.74 per 1,000 in 1996 to 37.20 per 1,000 in 1999.

Similar to the rates of pregnant women receiving AOD treatment, the rates of pregnant women using ATODs in HPRs I and III were consistently above the Commonwealth average. In contrast, the rates of pregnant women using ATODS were below the Commonwealth average in HPR II.

Exhibit 3-33
Rate of Pregnant Women Who Report Use of ATODs on Birth Certificates



In summary, the trend for six of the social indicators measuring the outcome Substance Use indicate that these rates are on the decline (*juvenile alcohol-related arrests*, *juvenile drug-related arrests*, *adult alcohol-related arrests*, *adult drug-related arrests*, *alcohol-related traffic fatalities*, *drug use during pregnancy-birth records*), the rate of adult DUIs remained stable, and drug use during pregnancy/AOD treatment rates are on the rise. Therefore, overall, it appears that the trend for the outcome Substance Use is on the decline. In regards to the HPRs, there does not appear to be a clear consistent pattern. In HPR V, six of the eight indicators measuring the problem behavior Substance Use were above the Commonwealth average. In HPRs III and IV, four of the eight social indicators were above the Commonwealth average. In contrast, in HPRs I and II, five or more of the eight social indicators were below the Commonwealth average. Thus, it appears that the problem behavior Substance Use is salient in HPRs V, III and IV, while Substance Use is not a concern in HPRs I and II.

3.7 Outcomes: Violent Crime

There are three social indicators that measure the problem behavior Violent Crime: *juvenile arrests for violent crime*, *adult arrests for violent crime*, and *homicides*.

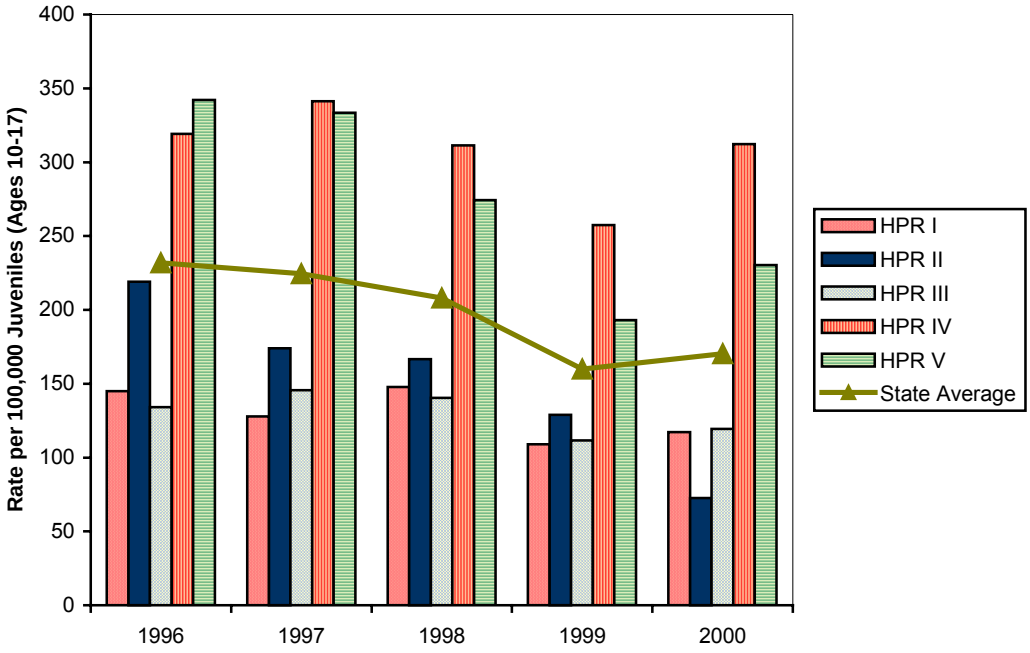
***Juvenile arrests for violent crime*—**Juvenile arrest rates for violent crime per 100,000 juveniles are presented in Exhibit 3-34.[7] The overall trend indicates a decline in the rate of juvenile arrests for violent crime from 1996 to 1999, with a

[7] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of juvenile arrests for violent crime in HPR II in 2000.

subsequent increase in 2000. There was a 31 percent decrease in the rate of juvenile arrests for violent crime from 231.93 per 100,000 in 1996 to 159.97 per 100,000 in 1999, with a subsequent 6 percent increase to 170.34 per 100,000 in 2000. A similar pattern was observed in HPRs IV and V. However, a very different trend was observed in HPRs I, II, and III. In HPR II, a decline in the rate of juvenile arrests for violent crime was observed across the 5 years with no increase in 2000. In HPRs I and III, the rate remained relatively stable across the 5 years. The lowest rate of juvenile arrests for violent crimes was observed in HPR III for the years 1996 and 1998 (134.22 and 140.36 per 100,000, respectively). The lowest rate in 1997 was observed in HPR 1 (108.93), while the lowest rate in 2000 was observed in HPR II (72.68 per 100,000).

The rates of juvenile arrests for violent crimes were consistently above the Commonwealth average in HPRs IV and V across all 5 years, while the rates of juvenile arrests for violent crimes in HPRs I, II, and III were consistently below the Commonwealth average across all 5 years.

Exhibit 3-34
Rate of Juvenile Arrests for Violent Crime
(homicide, aggravated assault, rape, robbery)



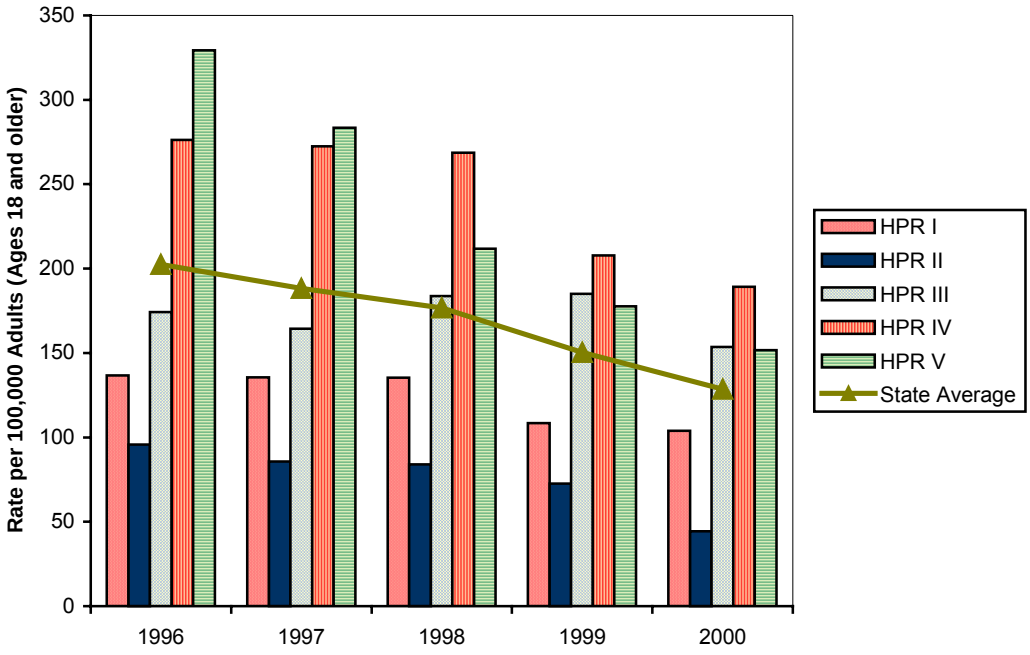
Adult arrests for violent crime—The rates of adult arrests for violent crimes per 100,000 adults are presented in Exhibit 3-35.[8] The overall trend indicates that the rate of adult arrests for violent crimes is on the decline. There was a 37 percent decline in the rate of adult arrests for violent crime from 202.47 per 100,000 in 1996 to 128.51 per 100,000 in 2000. A similar pattern was observed in HPRs I, II, IV, and V. The rate of adult arrests for violent crimes in HPR III remained

[8] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of adult arrests for violent crime in HPR II in 2000.

relatively stable across the 5 years. The lowest rate of adult violent arrests was observed in HPR II, ranging from 95.72 per 100,000 in 1996 to 44.27 per 100,000 in 2000. The highest rate, from 1996 to 1997, was observed in HPR V (329.34 and 283.41 per 100,000, respectively). In 1998 to 2000, the highest rate of adult arrests was observed in HPR IV (268.70 and 189.31 per 100,000, respectively).

The rates of adult arrests for violent crimes in HPRs IV and V were consistently above the Commonwealth average across all 5 years. In addition, the rate in HPR III was above the Commonwealth average for the last 3 report years from 1998 to 2000. The rates of adult arrests for violent crimes in HPRs I and II were consistently below the Commonwealth average across all 5 report years.

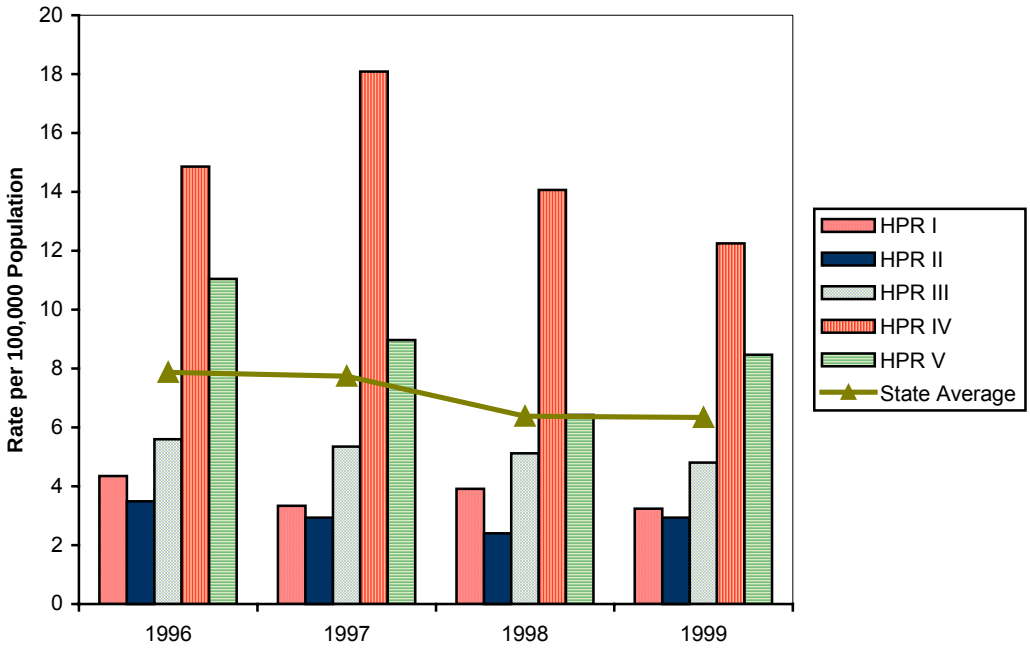
Exhibit 3-35
Rate of Adult Arrests for Violent Crime
(homicide, aggravated assault, rape, robbery)



Homicides—The rates of homicides per 100,000 population is displayed in Exhibit 3-36. The overall trend indicates that the homicide rate decreased from 1996 to 1999. The average rate of homicides decreased 19 percent from 7.86 per 100,000 in 1996 to 6.34 per 100,000 in 1999. A similar pattern was observed in the HPRs. The highest rate of homicide was observed in HPR IV, ranging from 14.85 per 100,000 in 1996 to 12.25 per 100,000 in 1999. The lowest rate of homicides was observed in HPR II, ranging from 3.5 per 100,000 in 1996 to 2.93 per 100,000 in 1999.

The rates of homicides in HPRs IV and V were consistently above the Commonwealth average for the 4 years (excluding HPR V in 1998), while the rates of homicides in HPRs I, II, and III were consistently below the Commonwealth average across all 5 years.

Exhibit 3-36
Rate of Homicides



In summary, the trend for the three social indicators that measure the outcome Violent Crime suggest that the rates for these social indicators are on the decline. HPRs IV and V were consistently above the Commonwealth average on all three social indicators that measure the outcome Violent Crime. These findings indicate that violent crime is a salient risk factor in HPRs IV and V. HPRs I and II were consistently below the Commonwealth average on all three social indicators, illustrating that the outcome Violent Crime is not a concern in these HPRS. HPR III was above the Commonwealth average on only one of the three social indicators measuring Violent Crime. This finding suggests that violent crime may be a small concern in HPR III.

3.8 Outcome: Nonviolent Crime

There are three social indicators that measured the problem behavior Nonviolent Crime: *juvenile arrests for curfew, vandalism, and disorderly conduct; juvenile arrests for property crimes; and adult arrests for property crimes*.

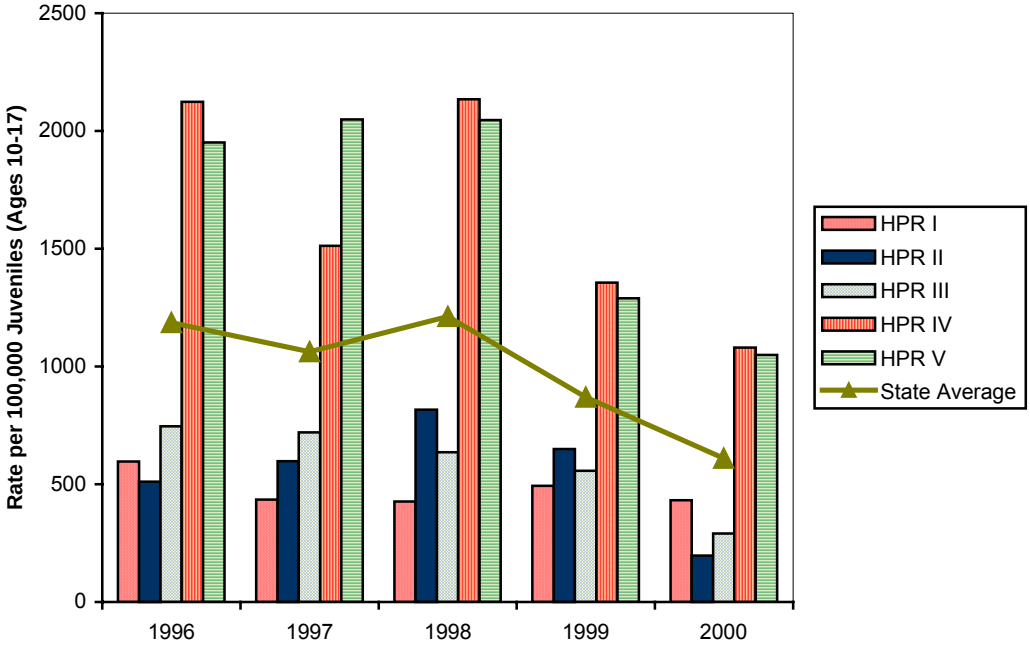
Juvenile arrests for curfew, vandalism, and disorderly conduct—Juvenile arrests rates per 100,000 juveniles for the non-violent crimes of curfew violation, vandalism, and disorderly conduct are displayed in Exhibit 3-37.[9] The overall trend of juvenile arrests for curfew, vandalism, and disorderly conduct indicates a decline in these types of crimes. There was a 49 percent decrease in the average rate of juvenile arrests for curfew, vandalism, and disorderly conduct crimes

[9] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of juvenile arrests for curfew, vandalism, and disorderly conduct in HPR II in 2000.

from 1185.88 per 100,000 in 1996 to 609.91 per 100,000 in 2000. A similar pattern was observed in all five HPRs. HPR IV had the highest rate of arrests, ranging from 2124.17 per 100,000 in 1996 to 1079.95 per 100,000 in 2000. HPR II had the lowest rate of arrests in 1996 (511.55 per 100,000), but this rate jumped to 816.85 per 100,000 (above the rates of HPR III and I) in 1998 and then subsequently dropped to the lowest rate again in 2000 at 197.29 per 100,000.

The rates of juvenile arrests for curfew, vandalism, and disorderly conduct were consistently above the Commonwealth average in HPRs IV and V across all 5 report years. The rates of juvenile arrests for curfew, vandalism, and disorderly conduct were consistently below the Commonwealth average in HPRs I, II, and III.

Exhibit 3-37
Rate of Juvenile Arrests for Curfew, Vandalism, and Disorderly Conduct

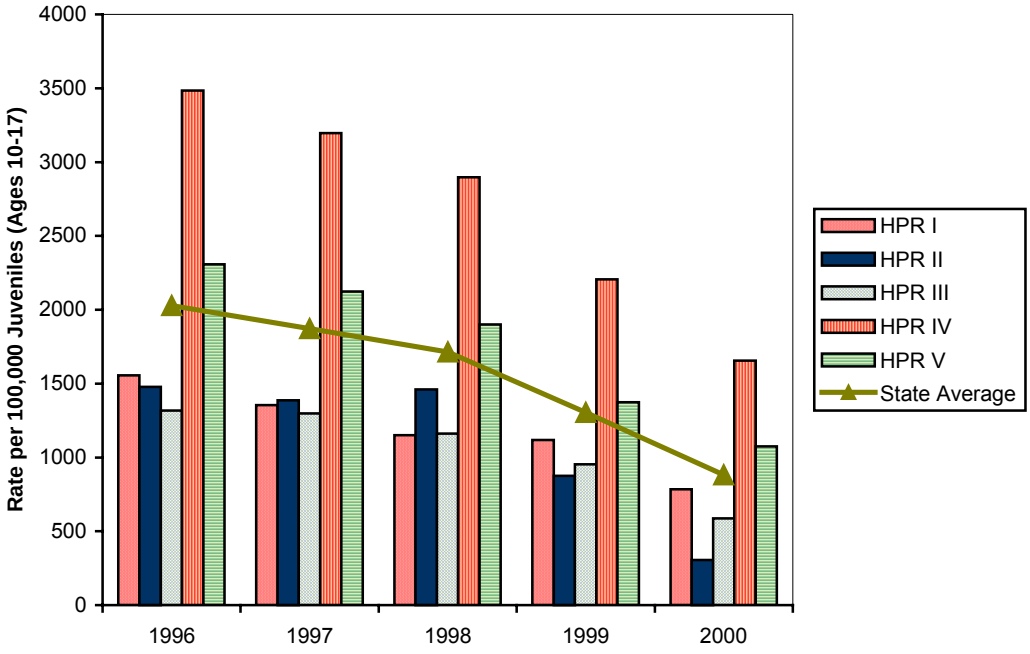


Juvenile arrests for property crimes—Juvenile arrest rates for property crimes per 100,000 juveniles are displayed in Exhibit 3-38. [10] The overall trend denotes that juvenile arrests for property crimes are on the decline. There was a 57 percent decrease in the average rate of juvenile arrests for property crimes from 2028.38 per 100,000 in 1996 to 881.72 per 100,000 in 2000. A similar pattern was observed in all five HPRs. The highest rate of juvenile property arrests was observed in HPR IV, ranging from 3483.81 per 100,000 in 1996 to 1659.87 per 100,000 in 2000. The lowest rate of juvenile property arrests was observed in HPR III for the years 1996 to 1998. However, by 1999 and 2000, the rate of juvenile property arrests was lower in HPR II.

[10] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of juvenile arrests for property crimes in HPR II in 2000.

The rates of juvenile property crimes were consistently above the Commonwealth average in HPRs IV and V, while the rates in HPR I, II, and III remained below the Commonwealth average across all 5 years.

Exhibit 3-38
Rate of Juvenile Arrests for Property Crimes
(burglary, larceny, arson, motor vehicle theft)

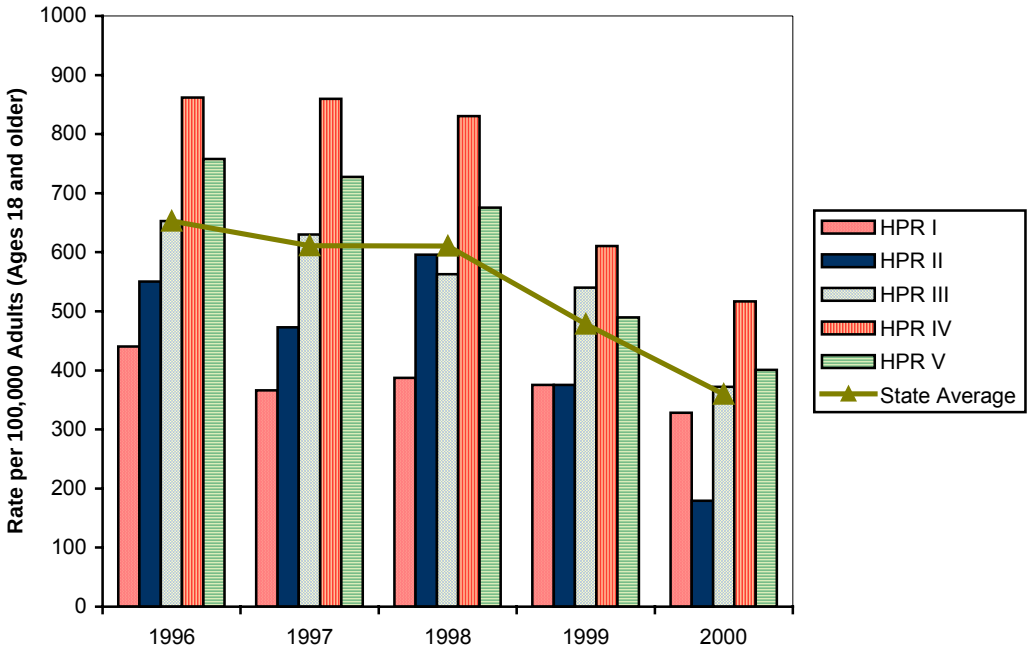


Adult arrests for property crimes—The rates of adult arrests for property crimes per 100,000 adults are presented in Exhibit 3-39.[11] The overall trend suggests a decline in the rate of adult arrests for property crimes. There was a 45 percent decrease in the rate of adult arrests for property crimes from 652.71 per 100,000 in 1996 to 359.50 per 100,000 in 2000. A similar pattern was observed in all five HPRs. The highest rate of adult property arrests was observed in HPR IV, ranging from 862.04 per 100,000 in 1996 to 516.82 per 100,000 in 2000. The lowest rate of adult property arrests was observed in HPR I for the years 1996 to 1999, with HPR II having the lowest rate in 2000.

The rates of adult arrests for property crimes were consistently above the Commonwealth average in HPRs IV and V and below the Commonwealth average in HPRs I and II, while the rates in HPR III fluctuated around the Commonwealth average across the 5 report years.

[11] Note that 44 percent of arrest data for HPR II was incomplete for 2000. This may account for the significant drop in the rate of adult arrests for property crimes in HPR II in 2000.

Exhibit 3-39
Rate of Adult Arrests for Property Crimes
(burglary, larceny, arson, motor vehicle theft)



In summary, there was a general trend for the three social indicators that measure the outcome Nonviolent Crime to decline across the Commonwealth in the 1990s. HPRs IV and V were consistently above the Commonwealth average on all three indicators that measure the outcome Nonviolent Crime, indicating that this outcome is problematic in these HPRs. In contrast, HPRs I, II, and III were consistently below the Commonwealth average on all three indicators, suggesting that the outcome Nonviolent Crime is not a concern in these HPRS.

3.9 Outcome: Adolescent Sexual Behavior.

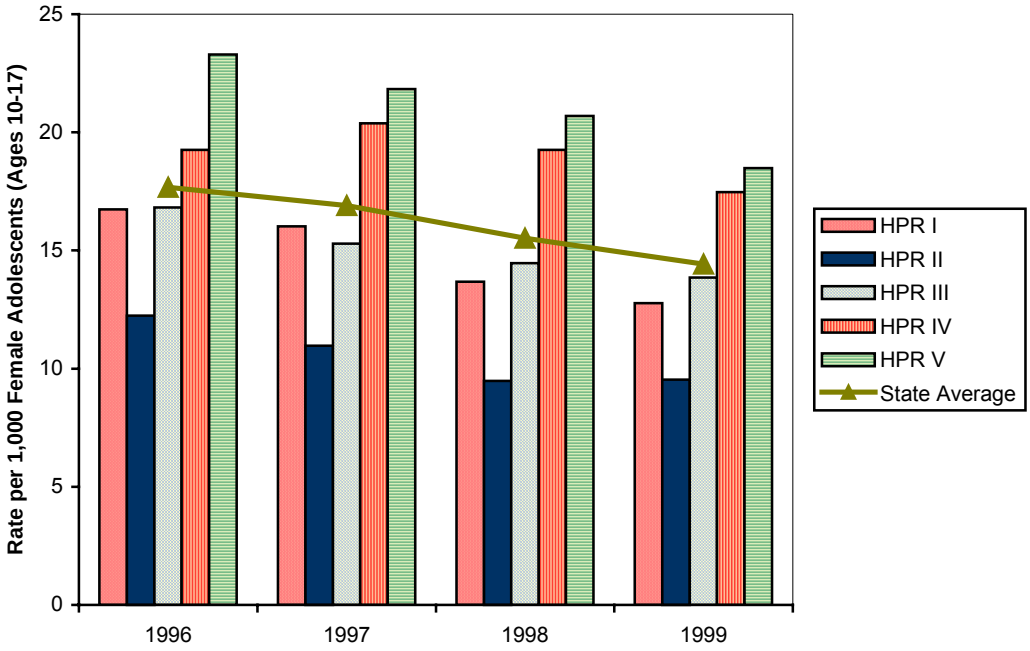
Two social indicators were collected that measure the problem behavior Adolescent Sexual Behavior: *adolescent pregnancies* and *adolescent live births*.

Adolescent pregnancies—The rates of pregnancies among females age 10–17 per 1,000 females age 10–17 is presented in Exhibit 3-40. The overall trend indicates that adolescent pregnancies are on the decline. There was an 18 percent decrease in the rate of adolescent pregnancies from 17.67 per 1,000 in 1996 to 14.42 per 1,000 in 1999. A similar pattern was observed in all five HPRs. The highest rate of adolescent pregnancies was observed in HPR V, ranging from 23.29 per 1,000 in 1996 to 18.48 per 1,000 in 1999. The lowest rate of pregnancies was observed in HPR II, ranging from 12.23 per 1,000 in 1996 to 9.53 per 1,000 in 1999.

The rates of adolescent pregnancies in HPRs IV and V were consistently above the Commonwealth average across all 4 report years. The rates of adolescent

pregnancies in HPRs I, II, and III were consistently below the Commonwealth average across all 4 report years.

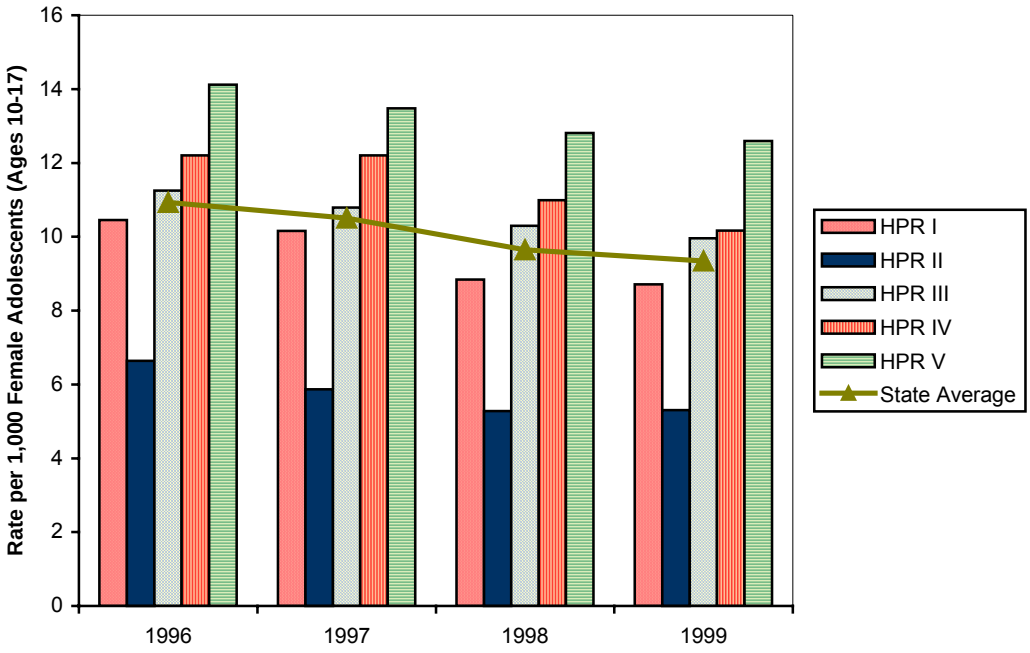
Exhibit 3-40
Rate of Adolescent Pregnancies (Females Ages 10–17)



Adolescent live births—The rates of live births among females age 10–17 per 1,000 females of the same age are displayed in Exhibit 3-41. A similar pattern was observed in the rate of adolescent live births as was observed in adolescent pregnancies. There was a 9 percent decrease in the average rate of adolescent births from 10.93 per 1,000 in 1996 to 9.34 per 1,000 in 1999. Similarly, a decline in the rate of adolescent live births was observed in all five HPRs from 1996 to 1999. The highest rate of live births was observed in HPR V, ranging from 14.11 per 1,000 in 1996 to 12.59 per 1,000 in 1999. The lowest rate of live births was observed in HPR II, ranging from 6.63 per 1,000 in 1996 to 5.31 per 1,000 in 1999.

The rates of adolescent live births in HPRs IV and V were consistently above the Commonwealth average across all 4 report years. The rates of adolescent live births in HPRs I and II were consistently below the Commonwealth average across all 4 report years, while the rates for HPR III fluctuated around the Commonwealth average.

Exhibit 3-41
Rate of Adolescent Live Births (Females Ages 10–17)



In summary, the general trend observed is a decline in the rates of the two social indicators that measure Adolescent Sexual Behavior. HPRs IV and V were above the Commonwealth average on the two social indicators that measure the outcome Adolescent Sexual Behavior, suggesting that this outcome is a salient problem in these two HPRs. In contrast, HPRs I and II were below the Commonwealth average on the two social indicators that measure the outcome Adolescent Sexual Behavior, indicating that this outcome is not a concern for these two HPRs. There is no consistent trend for HPR III, which was below the Commonwealth average on one indicator and fluctuated around the average on the second indicator.

3.10 Standardized Risk and Outcome Profiles

The following exhibits present the outcome problem behavior and risk profiles, based on the standardized social indicator indices, for each of the HPRs. The profiles display how much the outcome problem behaviors and risk factors deviate from the Commonwealth average. Thus, the X-axis indicates the number of standard deviations the outcome or risk factor deviates from the mean. Negative scores indicate that risk factor or outcome is below the Commonwealth average, while positive scores indicate that the risk factor or outcome is above the Commonwealth average.

The profiles allow the user to prioritize risk factors and/or outcomes. Scores on the profiles are absolute. Thus, direct comparisons can be made between risk factors or outcomes to determine the most problematic factors. With regard to prevention planning, it has been suggested by CSAP that an important step in

planning is the prioritization of risk factors. In the following discussion, where appropriate, three priority risk factors will be selected for each HPR.

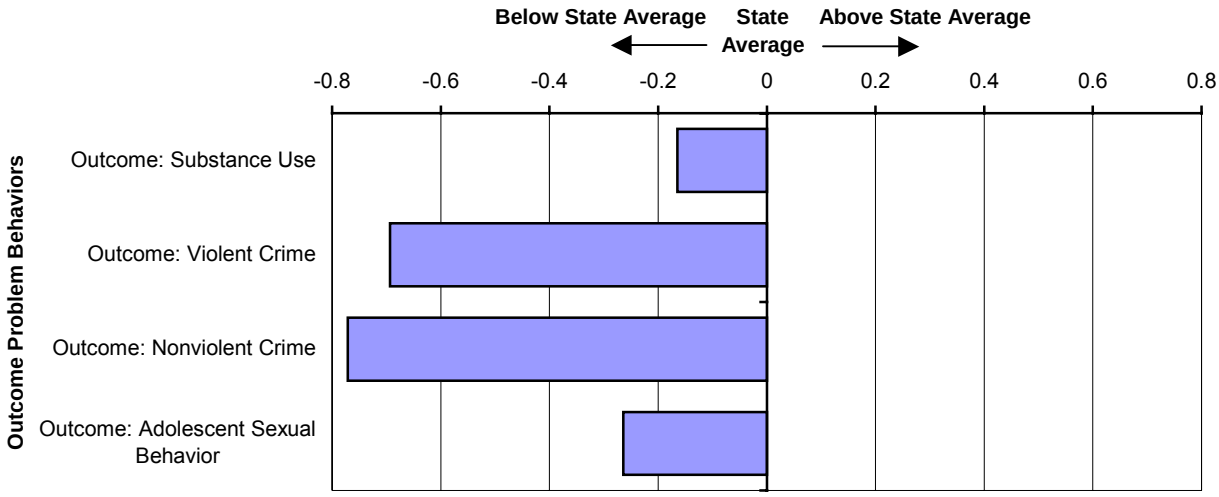
3.10.1 *Outcome Problem Behavior Profiles*

The following discussion will focus on the four outcome problem behaviors in each of the five HPRs.

HPR I—The outcome profile for HPR I is displayed in Exhibit 3-42. All four outcomes in HPR I were below the Commonwealth average. The Z scores equal -.16 for the outcome Substance Use, -.69 for the outcome Violent Crime, -.77 for the outcome Nonviolent Crime, and -.26 for the outcome Adolescent Sexual Behavior. Based on these findings, the outcomes can be ranked in the following order from most problematic to least problematic:

- Substance Use;
- Adolescent Sexual Behavior;
- Violent Crime; and
- Nonviolent crime.

Exhibit 3-42
HPR I Standardized Social Indicator Outcome Profile

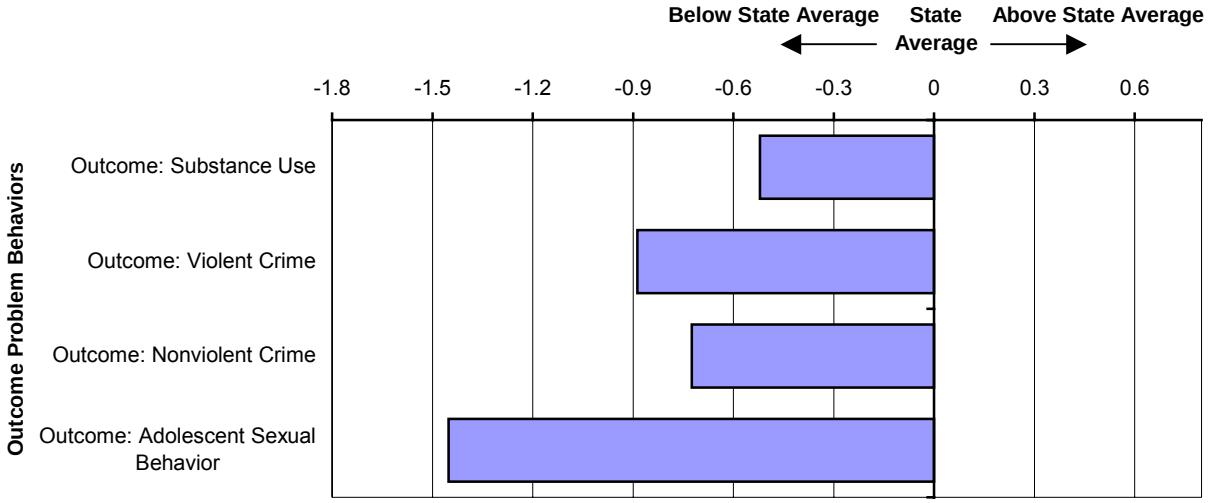


HPR II—The outcome profile for HPR II is displayed in Exhibit 3-43. All four outcomes in HPR II are below the Commonwealth average. The Z scores equal -.52 for the outcome Substance Use, -.88 for the outcome Violent Crime, -.72 for the outcome Nonviolent Crime, and -1.45 for the outcome Adolescent Sexual Behavior. Based on these findings, the outcomes can be ranked in the following order from most problematic to least problematic:

- Substance Use;
- Nonviolent Crime;

- Violent Crime; and
- Adolescent Sexual Behavior.

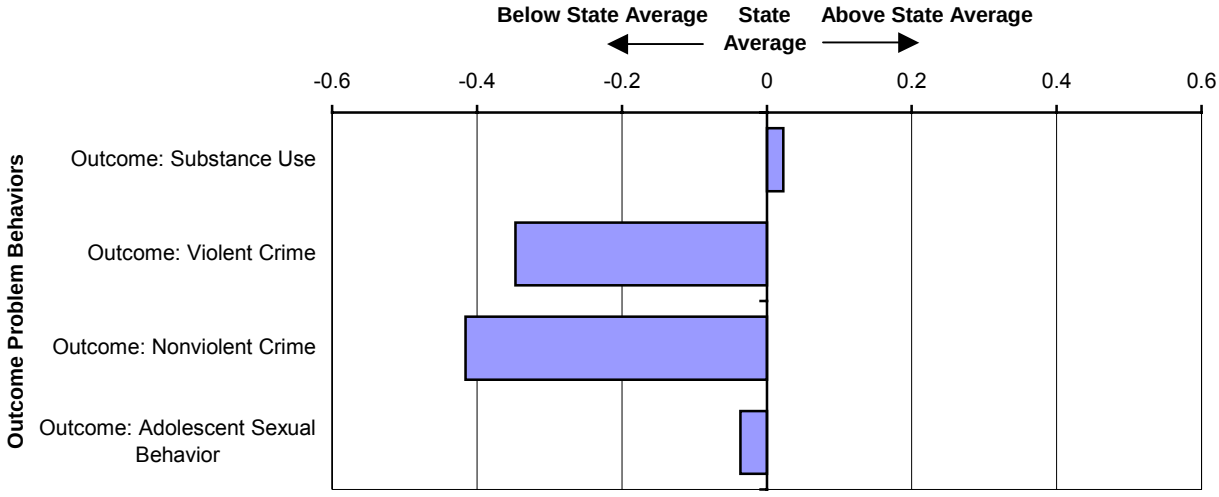
Exhibit 3-43
HPR II Standardized Social Indicator Outcome Profile



HPR III—The outcome profile for HPR III is displayed in Exhibit 3-44. Substance Use was the only outcome above the Commonwealth average in HPR III. The Z scores equal .02 for the outcome Substance Use, -.34 for the outcome Violent Crime, -.41 for the outcome Nonviolent Crime, and -.036 for the outcome Adolescent Sexual Behavior. Based on these findings, the outcomes can be ranked in the following order from most problematic to least problematic:

- Substance Use;
- Adolescent Sexual Behavior;
- Violent Crime; and
- Nonviolent Crime.

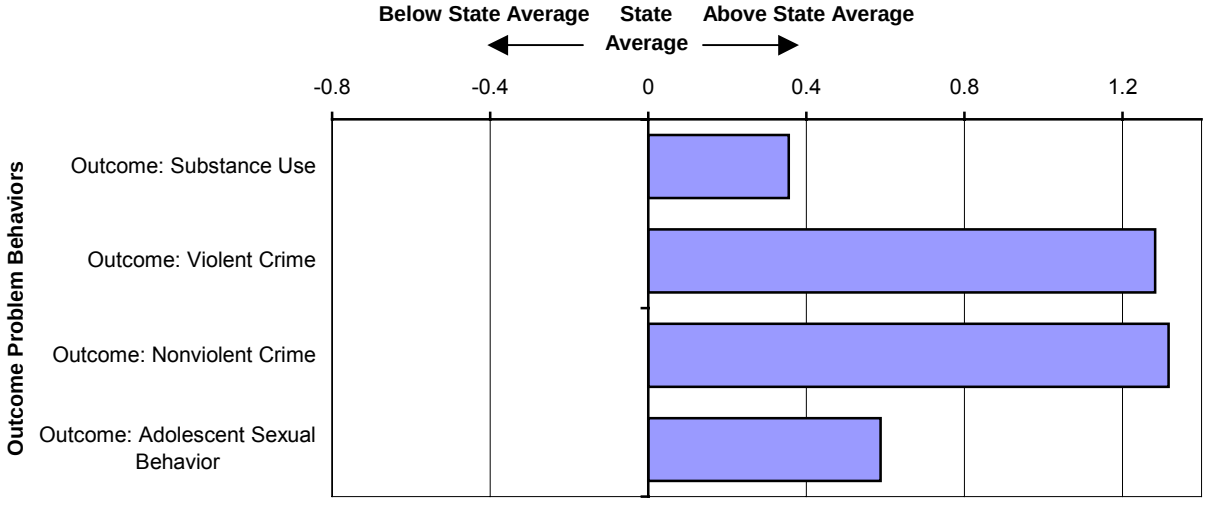
Exhibit 3-44
HPR III Standardized Social Indicator Outcome Profile



HPR IV—The outcome profile for HPR IV is displayed in Exhibit 3-45. All four outcomes were above the Commonwealth average in HPR IV. The Z scores equal .36 for the outcome Substance Use, 1.28 for the outcome Violent Crime, 1.32 for the outcome Nonviolent Crime, and .59 for the outcome Adolescent Sexual Behavior. Based on these findings, the outcomes can be ranked in the following order from most problematic to least problematic:

- Nonviolent Crime;
- Violent Crime;
- Adolescent Sexual Behavior; and
- Substance Use.

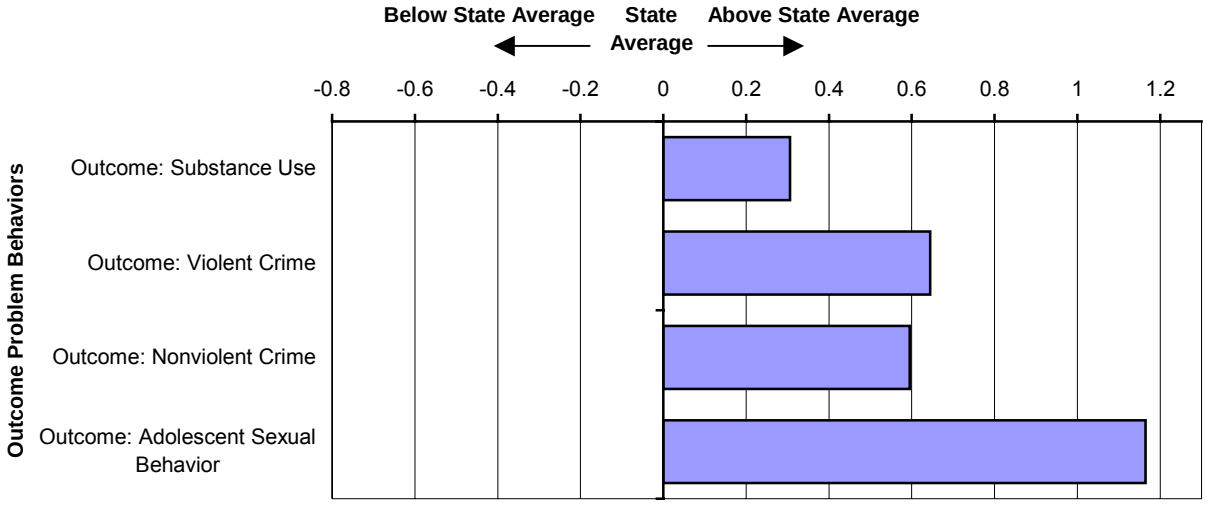
Exhibit 3-45
HPR IV Standardized Social Indicator Outcome Profile



HPR V—The outcome profile for HPR V is displayed in Exhibit 3-46. All four outcomes were above the Commonwealth average in HPR V. The Z scores equal .31 for the outcome Substance Use, .65 for the outcome Violent Crime, .60 for the outcome Nonviolent Crime, and 1.16 for the outcome Adolescent Sexual Behavior. Based on these findings, the outcomes can be ranked in the following order from most problematic to least problematic:

- Adolescent Sexual Behavior;
- Violent Crime;
- Nonviolent Crime; and
- Substance Use.

Exhibit 3-46
HPR V Standardized Social Indicator Outcome Profile



3.10.2 *Risk Profiles*

The following discussion will focus on the risk profiles for each of the five HPRs.

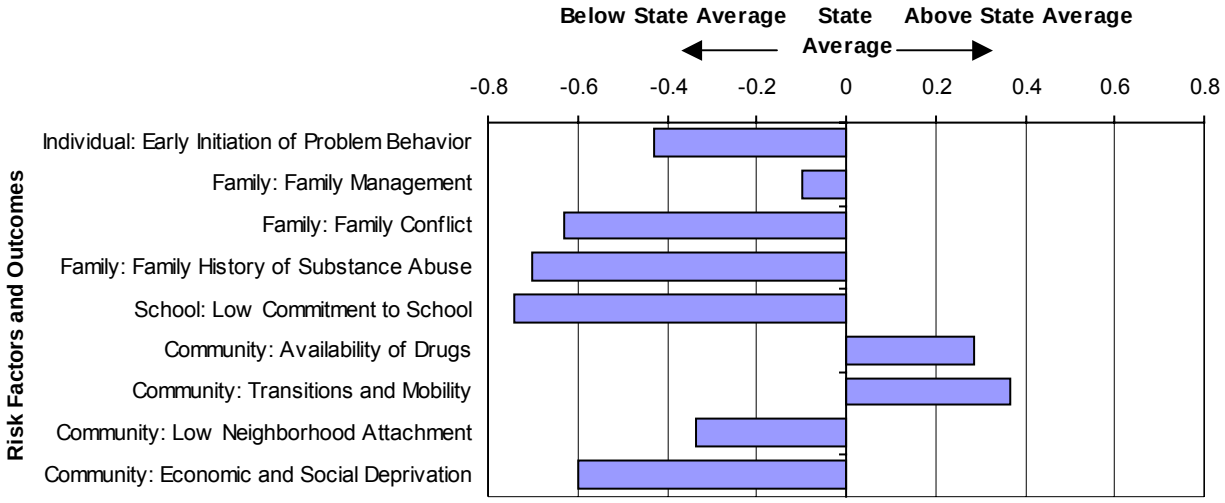
HPR I—The risk profile for HPR I is displayed in Exhibit 3-47. In HPR I, Availability of Drugs and Transitions and Mobility were the only two risk factors above the Commonwealth average. The Z scores equal -.43 for the risk factor Early Initiation of Problem Behavior, -.09 for the risk factor Family Management Problems, -.63 for the risk factor Family Conflict, -.70 for the risk factor Family History of Substance Abuse, -.74 for the risk factor Low Commitment to School, .28 for the risk factor Availability of Drugs, .37 for the risk factor Transitions and Mobility, -.34 for the risk factor Low Neighborhood Attachment, and -.60 for the risk factor Extreme Economic Deprivation. Based on these findings, the risk factors can be ranked in the following order from most problematic to least problematic:

- Transitions and Mobility;
- Availability of Drugs;

- Family Management Problems;
- Low Neighborhood Attachment;
- Early Initiation of Problem Behavior;
- Extreme Economic and Social Deprivation;
- Family Conflict
- Family History of Substance Abuse; and
- Low Commitment to School.

The priority risk factors, based on the social indicator data, for HPR I are Availability of Drugs and Transitions and Mobility.

Exhibit 3-47
HPR I: Standardized Social Indicator Risk Profile



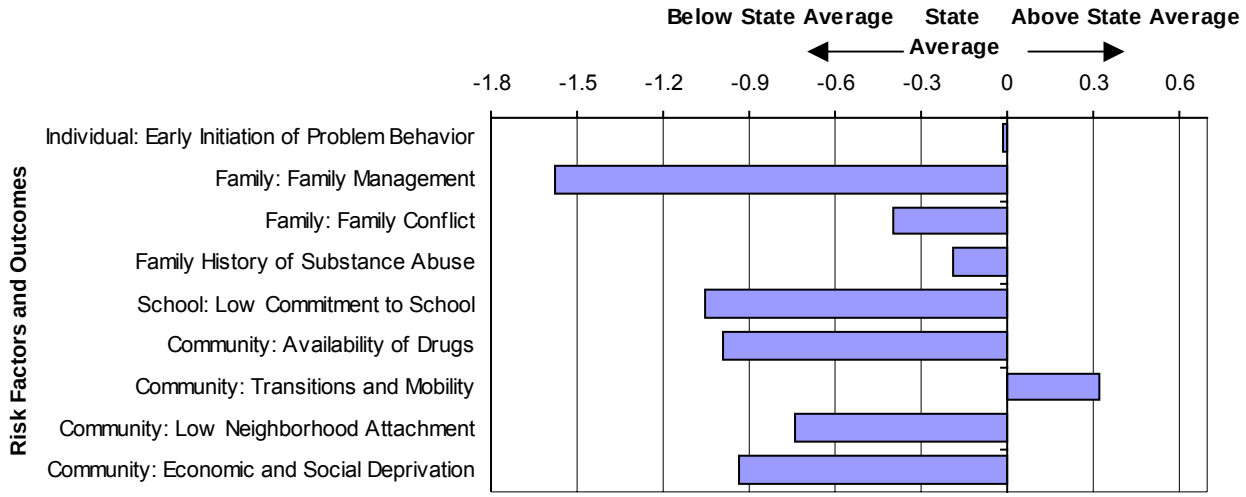
HPR II—The risk profile for HPR II is presented in Exhibit 3-48. In HPR II, Transitions and Mobility was the only risk factor above the Commonwealth average. The Z scores equal -.01 for the risk factor Early Initiation of Problem Behavior, -.1.58 for the risk factor Family Management Problems, -.40 for the risk factor Family Conflict, -.20 for the risk factor Family History of Substance Abuse, -1.05 for the risk factor Low Commitment to School, -.99 for the risk factor Availability of Drugs, .32 for the risk factor Transitions and Mobility, -.74 for the risk factor Low Neighborhood Attachment, and -.93 for the risk factor Extreme Economic Deprivation. Based on these findings, the risk factors can be ranked in the following order from most problematic to least problematic:

- Transitions and Mobility;
- Early Initiation of Problem Behavior;
- Family History of Substance Abuse;
- Family Conflict;
- Low Neighborhood Attachment;

- Extreme Economic and Social Deprivation;
- Availability of Drugs;
- Low Commitment to School; and
- Family Management Problems.

Therefore, the priority risk factor, based on the social indicator data, in HPR II is Transitions and Mobility.

Exhibit 3-48
HPR II: Standardized Social Indicator Risk Profile



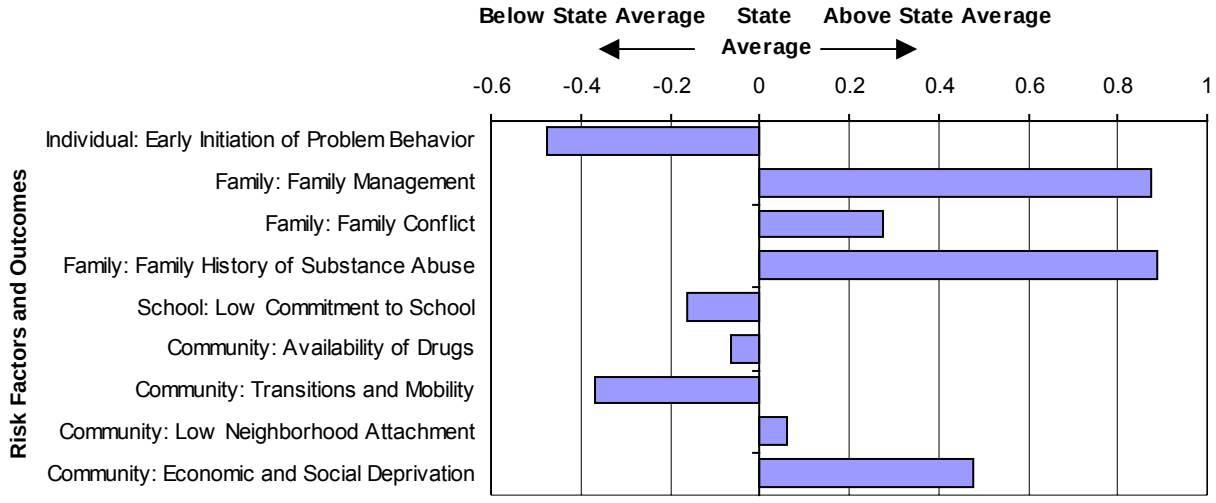
HPR III—The risk profile of HPR III is presented in Exhibit 3-49. In HPR III, five risk factors were above the Commonwealth average: Family Management, Family Conflict, Family History of Substance Abuse, Low Neighborhood Attachment, and Economic and Social Deprivation. The Z scores equal -.47 for the risk factor Early Initiation of Problem Behavior, .87 for the risk factor Family Management Problems, .27 for the risk factor Family Conflict, .88 for the risk factor Family History of Substance Abuse, -.16 for the risk factor Low Commitment to School, -.06 for the risk factor Availability of Drugs, -.37 for the risk factor Transitions and Mobility, .06 for the risk factor Low Neighborhood Attachment, and .47 for the risk factor Extreme Economic Deprivation. Based on these findings, the following is a ranking of risk factors from most problematic to least problematic:

- Family History of Substance Abuse;
- Family Management Problems;
- Extreme Economic and Social Deprivation;
- Family Conflict;
- Low Neighborhood Attachment;
- Availability of Drugs;

- Low Commitment to School;
- Transitions and Mobility; and
- Early Initiation of Problem Behavior.

Therefore, based on the social indicator data, the three priority risk factors are Family History of Substance Abuse, Family Management Problems, and Extreme Economic and Social Deprivation.

Exhibit 3-49
HPR III: Standardized Social Indicator Risk Profile



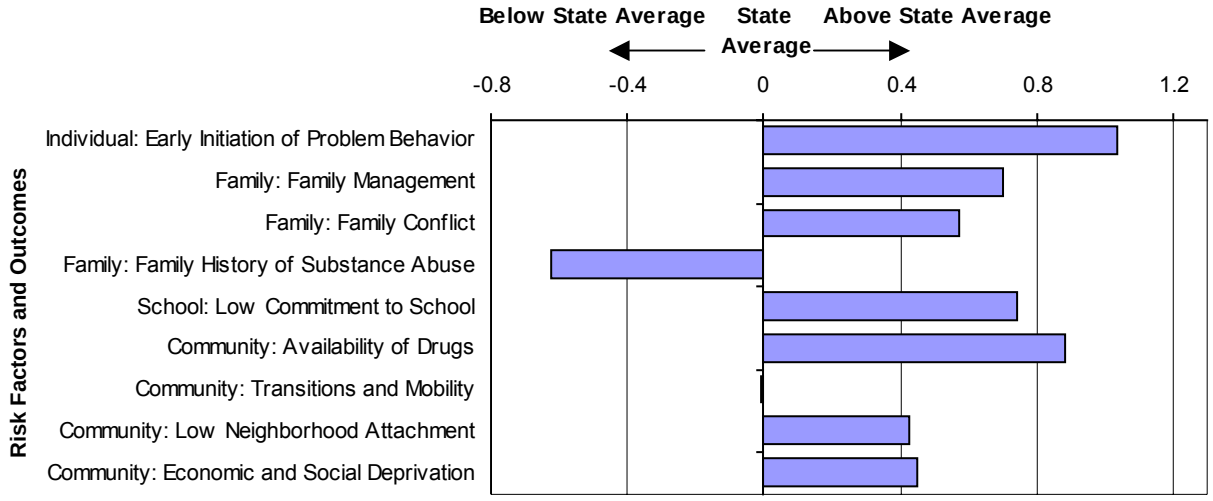
HPR IV—The risk profile of HPR IV is presented in Exhibit 3-50. In HPR IV, seven risk factors are above the Commonwealth average: Early Initiation of Problem Behavior, Family Management, Family Conflict, Low Commitment to School, Availability of Drugs, Low Neighborhood Attachment, and Economic and Social Deprivation. The Z scores for the risk factors equal 1.03 for Early Initiation of Problem Behavior, .70 for the risk factor Family Management Problems, .57 for the risk factor Family Conflict, -.62 for the risk factor Family History of Substance Abuse, .74 for the risk factor Low Commitment to School, .88 for the risk factor Availability of Drugs, -.01 for the risk factor Transitions and Mobility, .42 for the risk factor Low Neighborhood Attachment, and .45 for the risk factor Extreme Economic Deprivation. Based on these findings, the rankings of the risk factors from most problematic to least problematic are as follows:

- Early Initiation of Problem Behavior;
- Availability of Drugs;
- Low Commitment to School;
- Family Management Problems;
- Family Conflict;
- Extreme Economic and Social Deprivation;
- Low Neighborhood Attachment;

- Transitions and Mobility; and
- Family History of Substance Abuse.

The three priority risk factors, based on the social indicator data for HPR IV are Early Initiation of Problem Behavior, Availability of Drugs, and Low Commitment to School.

Exhibit 3-50
HPR IV: Standardized Social Indicator Risk Profile



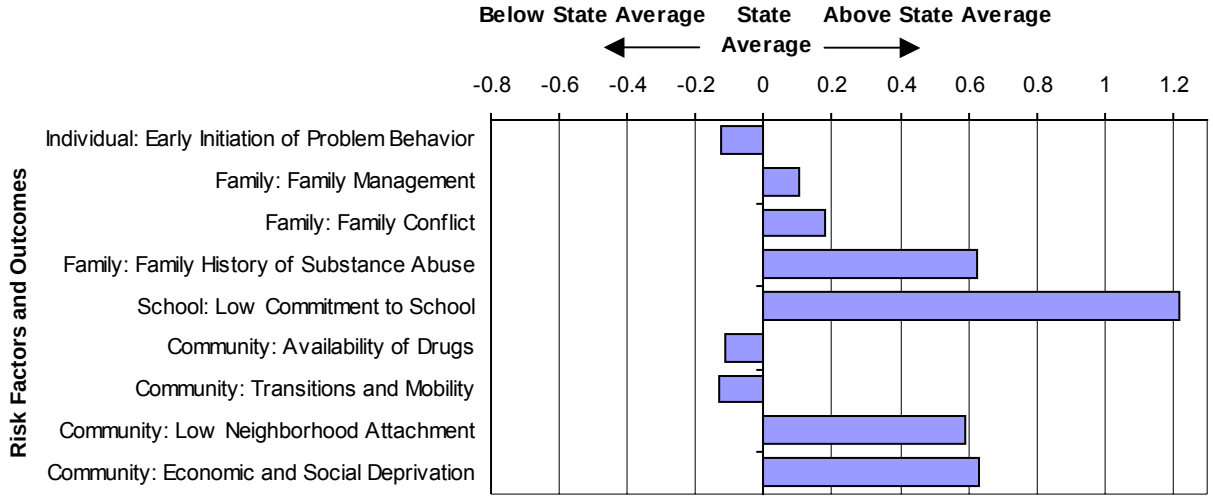
HPR V—The risk profile of HPR V is presented in Exhibit 3-51. In HPR V, six risk factors were above the Commonwealth average: Family Management, Family Conflict, Family History of Substance Abuse, Low Commitment to School, Low Neighborhood Attachment, and Economic and Social Deprivation. The Z scores equal -.12 for the risk factor Early Initiation of Problem Behavior, .10 for the risk factor Family Management Problems, .18 for the risk factor Family Conflict, .62 for the risk factor Family History of Substance Abuse, 1.22 for the risk factor Low Commitment to School, -.11 for the risk factor Availability of Drugs, -.13 for the risk factor Transitions and Mobility, .59 for the risk factor Low Neighborhood Attachment, and .63 for the risk factor Extreme Economic Deprivation. Based on these findings, the rankings of the risk factors from most problematic to least problematic are as follows:

- Low Commitment to School;
- Extreme Economic and Social Deprivation;
- Family History of Substance Abuse;
- Low Neighborhood Attachment;
- Family Conflict;
- Family Management Problems;
- Availability of Drugs;
- Early Initiation of Problem Behavior; and

- Transitions and Mobility.

The three priority risk factors, based on the social indicator data, for HPR V are Low Commitment to School, Extreme Economic and Social Deprivation, and Family History of Substance Abuse.

Exhibit 3-51
HPR V: Standardized Social Indicator Risk Profile



4. DISCUSSION

The findings from the Social Indicator Study provide valuable information regarding risk factors related to ATOD use and adolescent problem behaviors. Information on salient risk factors and problem behaviors is invaluable to the prevention planning process. The following sections discuss the findings of the Social Indicator Study and their application to prevention planning.

4.1 Data Limitations

As previously discussed, the examination of social indicator data is a common method to collect information on risk factors and outcomes related to ATOD use. Social indicator data, in comparison to other methods (e.g., youth surveys), are easy to obtain, incur minimal costs, and provide information at the local level. However, a number of variables may limit the utility and reliability of social indicator data. The social indicator data in the present study were collected from a variety of Commonwealth and Federal agencies; thus, the reliability of the data is dependent on a number of variables (e.g., data collection methods employed by local agencies, local policies, data management expertise, etc.). The following are examples of limitations of the social indicator data.

4.1.1 *Limitations of Arrest Data*

Arrest data accounts for a large number of the social indicators in the present study. While local law enforcement agencies are mandated to report arrest data to the Virginia State Police, arrest data are dependent on local law enforcement policies, local laws, and number of law enforcement officers. In addition, the 2000 arrest data are not complete due to a Statewide change to an Incident-Based Reporting system. In 1994, the Virginia State Police employed the Incident-Based Reporting system and gave local law enforcement agencies 5 years to convert to the new method. By 2000, the Virginia State Police would only accept data that was submitted through this new system, resulting in incomplete data submission for a small number of local law enforcement agencies.

4.1.2 *Limitations of Treatment Data*

Social indicator data collected from the Department of Mental Health, Mental Retardation, and Substance Abuse Services (VDMHMRSAS) (*adults in AOD treatment* and *pregnant women receiving State-supported AOD treatment*) are incomplete. The local Community Service Boards are not required to report this data to the VDMHMRSAS, resulting in incomplete data.

4.1.3 *Limitations of Child Abuse/Neglect Data*

The social indicator *child abuse and neglect cases*, is based only on **reported** cases of abuse and neglect. Thus the social indicator based on child abuse and neglect cases will underestimate the actual rate of child abuse and neglect cases.

4.1.4 *Limitations on U.S. Census Data*

The reliability and validity of social indicators based on the U.S. Census (e.g., *children living away from parents*, *single parent households*, *households in rental properties*, etc.) are subject to commonly accepted problems with U.S. Census data collection procedures (e.g., measurement and sampling errors). These problems include response rates, underestimation of populations not living in conventional housing, underestimation of populations in "high crime" neighborhoods, and underestimation of populations in which English is a second language.

4.2 Social Indicator Trends

Trend data can provide valuable information regarding changes in social indicators across time. This information may be used to identify risk factors or problem behaviors that are on the rise. It is suggested that prevention planners pay special attention to risk factors and problem behaviors on the increase.

Based on social indicator trends, two of the nine risk factors appear to be on the rise (Family History of Substance Abuses and Availability of Drugs) in the Commonwealth, while two other risk factors appear to be on the decline (Early Initiation of Problem Behavior and Low Commitment to School). The trend for one risk factor, Family Management Problems, remained stable while the trends for four risk factors were inconclusive: Family Conflict, Transitions and Mobility, Low Neighborhood Attachment, and Extreme Economic Deprivation. Based on these findings, there are two risk factors that are areas of concern for the Commonwealth, Family History of Substance Abuse and Availability of Drugs.

In HPR I, overall, none of the nine risk factors appear to be on the rise. Indeed, the majority of risk factor trends appear to be relatively stable in HPR I. In HPR II, overall, the trends for two of the nine risk factors appear to be on the rise: Family History of Substance Abuse and Availability of Drugs. It should be noted that the risk factor Availability of Drugs is below the Commonwealth average in HPR II. However, because the findings suggest that the trend for this risk factor is on the rise, prevention efforts may begin to focus on this risk factor before it becomes problematic. These findings suggest that these two risk factors may be areas of concern in HPR II. In HPR III, overall, the trends for three of the nine risk factors appear to be on the rise: Family History of Substance Abuse, Family Management Problems, and Family Conflict. These findings suggest that these three risk factors may be areas of concern in HPR III. In HPR IV, overall, the trends for two of the nine risk factors appear to be on the rise: Family History of Substance Abuse and Family Conflict. These findings suggest that these two risk factors may be areas of concern for HPR IV. In HPR V, overall, the trends for two of the nine risk factors appear to be on the rise: Family History of Substance Abuse and Family Management Problems. These findings suggest that these two risk factors may be areas of concern for HPR V.

A different pattern emerges for the outcome problem behaviors. Based on the trends for the social indicator data, it appears that all four outcome problem behaviors are on the decline in the Commonwealth. Underlying causes for this

decline should be identified. Current prevention efforts should be continued if the decline is due to State and local prevention efforts. Results from local community resource assessment efforts may help prevention planners identify causes for current trends.

Similar patters were observed in HPRs I, II, III, IV, and V (excluding the outcomes Substance Use and Violent Crime in HPR III, which remained relatively stable).

4.2.1 *Individual Domain*

In this section, the findings for one risk factor within the individual domain, Early Initiation of Problem Behavior, are discussed.

4.2.1.1 *Early Initiation of Problem Behavior*

Four social indicators were collected to measure the risk factor Early Initiation of Problem Behavior: *early dropouts*, *vandalism arrests* (ages 10–14), *alcohol-related arrests* (ages 10–14), and *person and property crimes* (ages 10–14). Overall, the trend data suggest that the rates for three of the four risk factors (*vandalism arrests*, *alcohol-related arrests*, and *person/property crime arrests*) are on the decline. The trend for the social indicator *early dropouts* was stable. However, it appears that the early dropout Commonwealth average was skewed by HPR IV. Similar to the other three social indicators, the trend for early dropouts in HPRs I, II, III, and V are on the decline. These findings suggest that the risk factor Early Initiation of Problem Behavior is on the decline.

However, there are areas of concern for those HPRs that do not follow this overall trend. As already stated, the percentage of early dropouts in HPR IV actually increased 46 percent. This is of particular concern in light of the findings that early dropouts are on the decline in the four other HPRs. Another area of concern regards vandalism arrests in HPR I. In contrast to the overall trend, the trend in HPR I suggests that vandalism arrests in this region are on the rise. With limited information regarding local circumstances (e.g., prevention resources, laws, etc.), it is difficult to identify underlying causes for these discrepancies.

4.2.2 *Family Domain*

In this section, the findings for three risk factors within the family domain, Family History of Substance Abuse, Family Conflict, and Family Management Problems, are discussed.

4.2.2.1 *Family History of Substance Abuse*

One social indicator was collected to measure the risk factor Family History of Substance Abuse: *adults receiving State-supported AOD treatment*. The overall trend indicates that the rate of adults receiving State-supported treatment is on the rise. Similar trends were observed in all five HPRs. This finding is surprising in light of VDMHMRSAS' recent initiative to maximize limited resources by targeting

priority populations for substance abuse treatment. However, the accuracy of the rise in State-supported substance abuse treatment is difficult to ascertain due to inconsistent reporting by localities. Therefore, the findings regarding this social indicator are inconclusive. Regardless, efforts should be made to identify causative factors, if any, related to this significant increase.

4.2.2.2 *Family Management Problems*

Two social indicators were collected to measure the risk factor Family Management Problems: *children living away from home* and *children in foster care*. The general trends suggest that the rates of both social indicators remained stable. These findings lead to the conclusion that the risk factor Family Management Problems is stable. A similar trend was observed in all five HPRs in both social indicators, with one exception—a decline in the rate of children in foster care was observed in HPR II across the report years. Efforts regarding this risk factor should focus on ascertaining local circumstances within HPR II (e.g., prevention programs) that account for the decline in foster care placements, in spite of an increase in other parts of the Commonwealth. One explanation may be local programs within HPR II that effectively target Family Management problems. If local programming may account for this finding, prevention planners in other HPRs may choose to implement similar programs within their localities.

4.2.2.3 *Family Conflict*

Two social indicators were collected to measure the risk factor Family Conflict: *reported child abuse/neglect cases* and *runaway arrests*. An overall trend regarding this risk factor is difficult to identify. The general trend in child abuse/neglect cases suggests that these cases are on the rise. This finding is of great concern, particularly in the case of HPR II, in which a 25 percent increase in these cases was observed between 1998 and 1999. Research has found a strong link between abuse and neglect and problem behaviors. Therefore, it is very important to identify and target causes underlying the observed increase. In contrast, the trend for runaway arrests indicates that these arrests are on the decline.

While overall runaway arrests appear to be on the decline, the rate of runaway arrests in HPR IV increased 22 percent between 1996 and 2000. A number of explanations may account for this finding. Some explanations include differences in reporting runaway arrests in localities within HPR IV, local police efforts in HPR IV may target runaway behavior, or adolescent perceptions of runaway behavior in these localities may be more acceptable. More information regarding local circumstances and available prevention programming are needed to determine the underlying causes for this finding.

4.2.3 *School Domain*

In this section, the findings for one risk factor within the school domain, Low Commitment to School, are discussed.

4.2.3.1 *Low Commitment to School*

Two risk factors were collected that measure the risk factor Low Commitment to School: *event dropouts* and *status dropouts*. However, trend data are only available for *event dropouts*. Overall, the general trend indicates that the risk factor Low Commitment to School is on the decline. A similar pattern was observed in all five HPRs.

4.2.4 *Community Domain*

In this section, the findings for four risk factors within the community domain, Availability of Drugs, Transitions and Mobility, Low Neighborhood Attachment and Extreme Economic Deprivation, are discussed.

4.2.4.1 *Availability of Drugs*

Three social indicators were collected to measure the risk factor Availability of Drugs: *alcohol net sales*, *alcohol outlets*, and *tobacco outlets*. No trend data are available for the social indicator *tobacco outlets*. The overall trend indicates that the rates of alcohol net sales and alcohol outlets are on the rise, leading to the conclusion that the risk factor Availability of Drugs is on the rise. A similar pattern was observed in all five HPRs. Again, this finding should be of concern to prevention planners. Research has found that there is a positive relationship between availability and prevalence even when controlling for finances and individual characteristics (Dembo, Farrow, Schmeidler, and Burgos, 1979; Gorsuch and Butler, 1976; Gottfredson, 1988). Again, more information regarding local programming and circumstance is needed before the underlying causes can be determined. However, prevention planners should be aware of this phenomenon when developing prevention plans.

4.2.4.2 *Transitions and Mobility*

Two risk factors were collected to measure the risk factor Transitions and Mobility: *new home construction* and *households in rental property*. No real trend emerged from these two social indicators. The overall trends indicate that new home construction is on the rise, while rental housing remains stable. However, the rise in new home construction may not necessarily be of concern. A number of factors may explain this rise, namely a good economy and an increase in population rates. In light of the finding that rental properties did not increase, further evidence is needed before any conclusions may be drawn from these findings.

4.2.4.3 *Low Neighborhood Attachment*

Two social indicators were collected to measure the risk factor Low Neighborhood Attachment: *population not voting* and *new admissions to State prisons*. Again, no general trend regarding Low Neighborhood Attachment can be identified. A U-shaped trend was observed for the social indicator population not voting. That is, an increase in the percent of registered voters who did not

vote was observed followed by a subsequent decrease. A similar pattern was observed in all five HPRs. As previously stated, this trend may be due to the fact that presidential elections fell on the years with the lowest percentage of non-voters.

The trend for new prison admissions remained stable. A similar pattern was observed in all five HPRs. This finding is surprising in light of the overall decline in arrests rates, which we expect would result in a subsequent decline in prison admissions. However, this finding may be the result of changes in mandatory sentencing policies.

4.2.4.4 *Extreme Economic and Social Deprivation*

Six social indicators measured the risk factor Extreme Economic And Social Deprivation: *unemployment*, *free and reduced lunch program participants*, *TANF participants*, *Food Stamp recipients*, *adults without a high-school diploma*, and *single-parent family households*. Trend data are not available on the social indicator adults without a high school diploma. The overall trends indicate that the rates for three of the social indicators are on the decline (*unemployment*, *TANF*, *Food Stamp recipients*), the rates for one social indicator, *Free and Reduced Lunch program participants*, remained stable, and the rates for one, *single-parent households*, are on the rise.

Based on these findings, it is difficult to draw any conclusions regarding an overall trend for the risk factor Extreme Economic and Social Deprivation. Particularly, because the decline in the rates of TANF and Food Stamp participants are most likely due to the "welfare to work" program, not necessarily to a decrease in the numbers of individual living below poverty. One finding is of particular concern, the rapidly rising rate of single-parent households. Overall, the percentage of single-parent households increased 31 percent. In HPRs IV and V, over 1/3 of all households were single-parent households in 2000.

4.3 Outcomes

In this section, the findings for four outcome problem behaviors—Substance Use, Violent Crime, Nonviolent Crime, and Adolescent Sexual Behavior—are discussed.

4.3.1 *Substance Use*

Eight social indicators measured the outcome Substance Use: *juvenile alcohol-related arrests*, *juvenile drug-related arrests*, *adult alcohol-related arrests*, *adult drug-related arrests*, *adult DUI arrests*, *alcohol-related traffic fatalities*, *drug use during pregnancy–ATOD treatment*, and *drug use during pregnancy–birth records*. The overall trends indicate that the rates for six social indicators are on the decline (*juvenile alcohol-related arrests*, *juvenile drug-related arrests*, *adult alcohol-related arrests*, *adult drug-related arrests*, *alcohol-related traffic fatalities*, and *drug use during pregnancy as reported on birth certificates*), the rates for one social indicator (*adult*

DUIs) remained stable, and the rate of drug use during pregnancy for women receiving State-supported AOD treatment increased. Overall, these trends indicate that the outcome Substance Use is on the decline.

However, a different pattern emerges in some of the HPRs. In HPR V, in contrast to the overall trend, the rate of juvenile alcohol-related arrests remained stable. In HPR II, in contrast to the overall trend, the percentage of alcohol-related traffic fatalities actually increased in 1999 and 2000.

4.3.2 *Violent Crime*

Three social indicators measured the outcome Violent Crime: *juvenile arrests for violent crime*, *adult arrests for violent crime*, and *homicides*. The overall trends indicate that the rates for all three social indicators are on the decline. Based on this finding, we can conclude that the outcome Violent Crime is on the decline. In contrast, the rate of juvenile and adult arrests for violent crime in HPR III remained stable.

4.3.3 *Nonviolent Crime*

Three social indicators measured the outcome Nonviolent Crime: *juvenile arrests for curfew, vandalism, and disorderly conduct*; *juvenile arrests for property crimes*; and *adult arrests for property crimes*. The overall trends indicate a decline in the rates of all three social indicators. These findings indicate that the outcome Nonviolent Crime is on the decline.

4.3.4 *Adolescent Sexual Behavior*

Two social indicators measured the outcome Adolescent Sexual Behavior: *adolescent pregnancies* and *live births*. The overall trends indicate that the rates of the two social indicators are on the decline. Based on these findings, we may conclude that the outcome Adolescent Sexual Behavior is on the decline.

4.4 Defining the Problem

The findings from the outcome profiles described in Chapter 3 may be used by prevention planners for step one of the planning process: "define the problem" (i.e., identify salient problem behaviors). All four outcomes in HPRs I and II are below the Commonwealth average. Thus, based on the social indicator data, no outcome problem behaviors can be defined as above the Commonwealth norm in HPRs I and II. However, this should not be construed to mean no problem can be defined in HPR I or II. Though the outcomes may be lower than the Commonwealth average in a particular HPR, the HPR may still have an outcome that needs to be addressed. The data may simply indicate that the problem is not as significant as in most other areas of the Commonwealth (e.g., the outcome Substance Use in a particular HPR may be lower than the Commonwealth average, but any substance use may be considered problematic to that community). Prevalence data from other sources (e.g., youth survey data) may

also identify problem behaviors above the Commonwealth average that were not evident from social indicator data.

In HPR III, the outcome Substance Use is above the Commonwealth average. Therefore, based on the social indicator data, the most salient problem behavior in HPR III is Substance Use. In HPRs IV and V all four outcome problem behaviors are above the Commonwealth average. The two most problematic outcomes in HPR IV are Nonviolent Crime and Violent Crime. The two most problematic outcomes in HPR V are Adolescent Sexual Behavior and Violent Crime.

4.5 Prioritizing Risk Factors

The findings from the risk profiles described in Chapter 3 can be used to complete step two of the prevention planning process described in the introduction: prioritization of risk factors. The following discussion will focus on addressing this issue.

The risk profiles, described in Chapter 3, can be used to identify those risk factors that are above the Commonwealth average. HPRs I and II have the smallest number of risk factors above the Commonwealth average. Within HPR I there are only two risk factors above the Commonwealth average, Availability of Drugs and Transitions and Mobility. Within HPR II only one risk factor, Transitions and Mobility, is above the Commonwealth average. Within HPR III, five risk factors are above the Commonwealth average: Family Management, Family Conflict, Family History of Substance Abuse, Low Neighborhood Attachment, and Economic and Social Deprivation. Within HPR IV, seven risk factors are above the Commonwealth average: Early Initiation of Problem Behavior, Family Management, Family Conflict, Low Commitment to School, Availability Of Drugs, Low Neighborhood Attachment, and Economic and Social Deprivation. Within HPR V, six risk factors are above the Commonwealth average: Family Management, Family Conflict, Family History of Substance Abuse, Low Commitment to School, Low Neighborhood Attachment, and Extreme Economic and Social Deprivation.

In HPRs I and II, all risk factors above the Commonwealth average fall within the community domain. In HPR III, the risk factors that are above the Commonwealth average fall within the family and community domains. HPR IV is the only HPR that has a risk factor above the Commonwealth average in the individual/peer domain and HPRs IV and V are the only HPRs with a risk factor above the Commonwealth average in the school domain. At this point, it is difficult to determine why risk factors in the school and individual/peer domains are less common. The results of the Community Resource Assessment may help answer this question. These findings may be due to effective programming that targets risk factors in these two domains. Additionally, community and family risk factors may be more difficult to change in comparison to school and individual risk factors.

The Southeastern Center for the Application of Prevention Technology suggests that part of the prioritization process should include the selection of two to five priority risk factors (www.secapt.org/science3.html; 1/21/02). In this discussion, we limit the selection to three priority risk factors to maximize limited resources. Selection of the three priority risk factors was based on the three risk factors with the largest deviation above the deviated State mean. The priority risk factors for HPR I, based on the social indicator data, are Availability of Drugs and Transitions and Mobility. The priority risk factor in HPR II, based on the social indicator data, is Transitions and Mobility. The three priority risk factors in HPR III, based on the social indicator data, are Family History of Substance Abuse, Family Management Problems and Extreme Economic and Social Deprivation. The three priority risk factors in HPR IV, based on the social indicator data, are Early Initiation of Problem Behavior, Availability of Drugs, and Low Commitment to School. The three priority risk factors for HPR V, based on the social indicator data, are Low Commitment to School, Extreme Economic and Social Deprivation, and Family History of Substance Abuse.

Typically the three risk factors selected are those that are the most salient in a community (i.e., deviate the furthest from the State average). However, it has been suggested by the Southeastern Center for the Application of Prevention Technology that prevention efforts not only target the most problematic risk factors, but also those that offer a synergistic effort (www.secapt.org/science3.html; 1/21/02).

In some cases, it may be more effective to select problematic risk factors that cluster together or allow for a "synergistic" approach. That is, prevention planners may want to select problematic risk factors that can be targeted by one rather than multiple programs. For example the Seattle Social Development Project is a "best-practice program" that targets both Family Management Problems and Low Commitment to School (www.secapt.org/science3.html; 1/21/02). While prevention planners may choose to target the most salient risk factors, they may want to maximize resources by selecting risk factors that can be addressed by as few programs as possible.

For example, within HPR III, the three prioritized risk factors fall within the family and community domains. If a best-practice program is available that targets all three risk factors, then no dilemma arises. However, if three separate programs are needed to target each separate risk factor, then efforts may focus on problematic risk factors that can be addressed by one or two best-practice programs. The decision on what risk factors to target in HPR III should be based, in part, on available prevention resources.

4.6 Implementing Programs

The third step in the planning process is to implement programs that target the prioritized risk factors. Prevention planners are encouraged to select best-practice or model programs that target the prioritized risk factors as part of the implementing programs process. Implementing programs can take two forms. First, existing programs that target prioritized risk factors can be modified to

meet best-practice requirements. Findings from community resource assessments can aid in the process of identifying available resources that target prioritized risk factors. Second, new best-practice or model programs can be developed and implemented to target prioritized risk factors.

For more information on best-practices that target specific risk factors see the Web site of the Southeastern Center for the Application of Prevention Technology, (www.secapt.org).

4.7 Best-Practice Programs for HPRs

The following section presents best-practice programs for each HPR based on the prioritized risk factors.

A description of the best-practice program goals taken directly from the SECAPT Web site (www.secapt.org, 1/21/02) can be found in Appendix D. For more detailed descriptions, please see the SECAPT Web site.

4.7.1 *HPR I*

Social indicator data indicate Availability of Drugs and Transitions and Mobility are the salient risk factors for this region. The following list provides best-practice programs targeting the prioritized risk factors:

- Availability of Drugs:
  - Economic Interventions;
  - Project Star; and
  - Project Northland.
- Transitions and Mobility:
  - Communities That Care; and
  - Project PATHE.

4.7.2 *HPR II*

Social indicator data indicate Transitions and Mobility is the salient risk factor for this region. The best-practice programs identified below target this priority risk factor:

- Transitions and Mobility:
  - Communities That Care; and
  - Project PATHE.

4.7.3 *HPR III*

Social indicator data indicate Family Management Problems, Family History of Substance Abuse, and Extreme Economic and Social Deprivation are the salient

risk factors for this region. The following presents some of the best-practice programs that address the respective risk factors:

- Family Management Problems:
  - Adolescent Transitions Program;
  - Birth to Three Program;
  - CEDEN Family Resource Center;
  - Creating Lasting Connections;
  - DARE to Be You;
  - Early Childhood Substance Abuse Prevention Project;
  - Effective Black Parenting;
  - Families and Schools Together;
  - Families in Focus: Seven Secrets to a Successful Family (Boswell);
  - Family Therapy;
  - Focus on Families;
  - Functional Family Therapy Program;
  - Home Visiting;
  - Iowa Strengthening Families Program;
  - MELD;
  - NICASA Parent Project;
  - The Nurturing Program;
  - Parenting Adolescents Wisely;
  - Video Presentation Program: Parents and Children;
  - Parent and Family Skills Training;
  - Parenting Skills Program;
  - Prenatal/Early Infancy Project;
  - Preparing for the Drug Free Years;
  - Seattle Social Development Project;
  - Strengthening Families Program;
  - Strengthening Hawaii Families; and
  - Treatment Foster Care Program.

- Family History of Substance Abuse:
  - Focus on Families; and
  - Residential Student Assistance Program; and
  - Strengthening Families Program.

- Extreme Economic and Social Deprivation:
  - Prenatal/Early Infancy Program;
  - Quantum Opportunities Program;

4.7.4 *HPR IV*

Social indicator data indicate Early Initiation of Problem Behavior, Low Commitment to School, and Availability of Drugs are the salient risk factors for this region. The best-practice programs identified by SECAPT for addressing each respective risk factor are provided below:

- Low Commitment to School:
  - Across Ages;
  - Child Development Project;
  - Families and Schools Together;
  - Mentoring;
  - Norm for Behavior and Rule Setting in School;
  - Project ACHIEVE;
  - Project PATHE; and
  - Seattle Social Development Project.

- Early Initiation of Problem Behavior:
  - Creating Lasting Connections;
  - Mentoring;
  - Project Alert;
  - Project Northland;
  - Across Ages;
  - Child Development Project;
  - Families and Schools Together;
  - Mentoring;
  - Norm for Behavior and Rule Setting in School;
  - Project ACHIEVE;
  - Project PATHE; and
  - Seattle Social Development Project.

- Availability of Drugs:
  - Economic Interventions;
  - Project Star;
  - Project Northland; and
  - Retailer-Directed Interventions.

4.7.5 *HPR V*

Social indicator data indicate Low Commitment to School, Family History of Substance Abuse, and Extreme Economic and Social Deprivation are the salient risk factors for this region. Best-practice programs are provided following their respective risk factors below:

- Low Commitment to School:
  - Across Ages;
  - Child Development Project;
  - Families and Schools Together;
  - Mentoring;
  - Norm for Behavior and Rule Setting in School;
  - Project ACHIEVE;
  - Project PATHE; and
  - Seattle Social Development Project.

- Family History of Substance Abuse:
  - Families in Focus; and
  - Residential Student Assistance Program; and
  - Strengthening Families Program.

- Extreme Economic and Social Deprivation:
  - Prenatal/Early Infancy Program; and
  - Quantum Opportunities Program.

4.8 Commonwealth–Wide Prevention Planning

The findings from the Social Indicator Study are a critical component of a Commonwealth-wide prevention needs assessment. The Prevention Needs Assessments Studies, including this study of social indicators, represent the first time in the history of prevention planning in Virginia that consistent, reliable Commonwealth-wide data have been available. The Social Indicator Study findings identify ATOD prevention-related needs throughout Virginia by identifying the prevalence of the problem and salient ATOD risk factors. These provide prevention planners with data to complete the first two steps of the prevention planning process—defining the problem and prioritizing risk and protective factors. The definition of problems and identification of priority risk factors help inform prevention planning decisions related to selecting best-practice programs most likely to reduce local risk factors. Continued collection and analysis of social indicator data, coupled with youth and community resource survey information, can also provide the Commonwealth with data to complete the final step of the prevention planning process—evaluation. Assessing trends in this data over the coming years provides a means to measure long-term outcomes of prevention planning efforts and provides planners with tools to continually assess the relationship between prevention needs and resources.

The social indicator data, together with the Community Youth Survey and the Community Resource Assessment components of the Prevention Needs Assessment Studies, can be utilized to assess the gap between existing resources relative to identified need. This information will help allocate prevention resources to close gaps in existing services, policies, and activities; buttress effective services, policies, and activities; and assist planners and policymakers in prevention planning, resource allocation, evaluation activities, and policy development to help prevent ATOD use among Virginia youth.

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